COAST HIGHWAY MANAGEMENT PLAN

Corridor Management Plan

July 2003 Draft

Highway 1 along the Big Sur Coast
from San Carpoforo Creek in San Luis Obispo County
to the Carmel River in Monterey County
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U.S. Department of Transportation
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The overall undertaking of the Big Sur Coast Highway Management Plan has been a team effort of extraordinary magnitudes and owes everything to the commitment and dedication of these people and so many others who have not been named here.

Aileen K. Loe
Project Manager

EXECUTIVE SUMMARY

Whether it's a first time visit or part of a familiar routine, travel along the Big Sur Coast can be a celebrated, awe-inspiring experience. The Big Sur Coast is where Highway 1 traces a narrow ledge along the rugged Santa Lucia Mountains above the Pacific shoreline, leading travelers into a scenic drama that is known around the world. In recognition of its spectacular beauty and other unique qualities, this part of Highway 1 has been designated an All-American Road. This honor is afforded by the National Scenic Byways Program to those few highways in America that are so distinctive as to be considered a destination unto themselves.

Due to the local geology, topography, and climate, the highway along the Big Sur Coast is prone to landslides and rockfalls. Progressive natural changes punctuated by storm-related events impact the highway resulting in service interruptions for repairs and removal of slide material. Keeping the highway safe, reliable, and in good repair is a challenge for the California Department of Transportation. The work required to meet this challenge can sometimes appear to conflict with resource preservation values and the quality of the traveler's experience through the corridor. The reality is that the Department cannot effectively manage the highway corridor alone; collaboration among stakeholders is absolutely necessary.

The Big Sur Coast Highway Management Plan (CHMP) was prepared by Caltrans, with guidance from a 19-member Steering Committee and participation by other stakeholders who shared a vision for the corridor and came together to evaluate problems and craft solutions. Together, they committed to creating a management framework for the continued safe and efficient operation of Route 1 in a manner that preserves, protects and restores the scenic, natural and cultural character and qualities of the highway corridor.

Early scoping for the CHMP identified five key issue areas around which a series of technical working groups were formed: (1) Storm Damage Response and Repair, (2) Maintenance Practices, (3) Scenic & Habitat Conservation, (4) Public Access & Recreation and (5) Plan Implementation.

A major component of the planning effort produced a comprehensive inventory of corridor resources and qualities. Special studies were also commissioned to provide greater insight into the more complex issues, such as landsliding.

The CHMP consists of this Corridor Management Plan (CMP) and a series of Management Guidelines. The CMP summarizes the inventory of corridor resources and qualities, describes the issues and challenges investigated by the five working groups, an action plan for addressing the issues and a framework for implementation. The three guidelines address:

- Corridor Aesthetics
- Landslide Management & Storm Damage Response
- Vegetation Management.

Together these documents provide the framework for ongoing collaboration to meet stakeholders' common vision for the corridor.

CHAPTER 1 INTRODUCTION

The Big Sur Coast Highway Management Plan represents a culmination of efforts that were initiated after a major landslide in 1983 that closed Highway 1 for one year. Renewed focus on the planning effort came in the aftermath of the severe 1998 El Niño storms that brought numerous landslides and related highway closures. Led by the California Department of Transportation (the Department or Caltrans) with funding from the Federal Highway Administration (FHWA), the planning process was undertaken by committed stakeholders supported by agency staff and consultants. This document characterizes the intrinsic qualities important for long-term preservation, summarizes the major issues identified by stakeholders, presents strategies and actions to address the issues, and proposes a structure for implementation.

The study area is a 75-mile stretch of Highway 1 along California's central coast from San Carpoforo Creek, about 15 miles north of San Simeon in San Luis Obispo County, to the Carmel River, just south of the City of Carmel-by-the-Sea in Monterey County (Figure 1). Situated on the steep western slopes of the Santa Lucia Mountains, Highway 1 provides access to a most unforgettable place. For this simple fact in combination with the protections in place with Monterey County's Local Coastal Program, 72-miles of highway within Monterey County was designated an All-American Road in 1996.

Figure 1: Location map for the Big Sur Coast Highway Management Plan.

The All-American Road designation is generally reserved for routes considered destinations in themselves. Its importance to tourism and recreational travel notwithstanding, the corridor also functions as a lifeline for residences and businesses, with very few options for detours or alternate routes. The corridor also threads a landscape that supports some of the most treasured environmental resources in the country.

This designation puts the highway corridor on par with other national treasures along the Big Sur Coast: the waters of Monterey Bay National Marine Sanctuary, the exposed rocks offshore within the California Coastal National Monument and portions of the inland forest of the Ventana and Silver Peak Wilderness Areas. Each of these designations is afforded a degree of honor and protection at the highest levels of government.

1.1 Need & Purpose

Given the climate, geology and topography of the Big Sur Coast, the occurrence of episodic storm-related events is not unexpected. The landscape is undergoing continuous change where natural forces act in opposing directions, both lifting the mountains and wearing them down. Working to keep the road open in this environment is a very practical matter. However, sometimes performing the most basic functions to maintain the highway can appear to be in conflict with resource preservation goals.

Landslides and other storm damage events have affected the highway ever since its completion in 1937. The 1998 storm season was one of the worst in recent history and resulted in unprecedented number of damage locations along the highway. The massive damage required closure of the highway for nearly four months to undertake repairs costing in excess of $30 million.

Figure 2: Removing landslide debris from the highway began even before the original construction was completed.

The need to prepare for future events and minimize the potential damage to the highway would be sufficient justification alone for developing a management plan. However, the task is much more complex than maintaining a ribbon of pavement, since the region is filled with rich and diverse resources, many of which are unique to the corridor.

Keeping the highway in a state of good repair is intensive and ongoing. The efforts are not lost on those who rely on the highway, but some consequences of the work over time have been a source of strain between the Department and important stakeholder groups. Growing concern has been focused on the idea that highway repairs rely on engineering solutions at the expense of the environment and that a progression toward urban-style elements was out of character. Lack of a comprehensive and deliberate approach appropriate to this corridor has been described as leading to a gradual degradation of the Big Sur experience.

Among the most difficult issues faced by The Department in any major storm event is determining how to handle large volumes of earthwork generated by landslides and subsequent highway repair. In times past, material would generally be pushed seaward; this practice has been avoided in response to regulation over potential impacts to the marine environment. In recent years, the disposition of excess material has been addressed on an ad hoc basis. Since earthwork is often the controlling item that drives highway reopening, a plan for dealing with this certainty should be in place in advance of a need. The Department cannot nor should it attempt to solve this situation completely on its own; the Department depends on active participation by others for finding appropriate solutions.

The primary purpose of the Big Sur Coast Highway Management Plan is to establish coordinated management of the Highway 1 corridor, which is the key to preserving, protecting, and restoring the area's unique qualities while ensuring the continued safe and efficient operation of the highway.

Incorporating Strategic Transportation Goals

The California Department of Transportation is responsible for maintenance and operation of Highway 1. The mission of the Department is to improve mobility throughout the State. Five organization-wide strategic goals inspire and focus the actions of its employees towards accomplishing this mission:

Safety—achieving the best safety record in the nation
Reliability—reducing traveler delays due to roadwork and incidents
Performance—delivering record level of transportation system improvements
Flexibility—making transit a more practical travel option
Productivity—improve the efficiency of the transportation system

The Big Sur CHMP embraces all of these goals.

1.2 Defining the Corridor

The 1996 All-American Road designation was limited to the 72-miles of coast within Monterey County; in 2002, the designation was extended south to the City of San Luis Obispo. The most pressing issues for managing Highway 1 along the Big Sur Coast practical correspond well with geographic boundaries.

For many traveling north, the Big Sur Coast begins with the crossing of San Carpoforo Creek in San Luis Obispo County where the highway climbs onto the slopes of the Santa Lucia Mountains. This location near Ragged Point, about three miles south of the Monterey county line, is the natural southern boundary for the CHMP.

When southbound travelers leave the Monterey Peninsula and cross the Carmel River, they enter the gateway to El Sur Grande, or "The Big South." Unless a round-trip outing is planned, this crossing signifies a commitment to the duration of a 100-mile journey before a reliable connection could be made to the nearest parallel north-south corridor on Route 101, which runs up the Salinas River Valley.

Figure 3: A majestic view of the corridor looking south from the Coast Gallery. (Photo: Dan Priano)

For purposes of CHMP, the width of the corridor varies by subject. In its simplest form, the corridor is defined by the state highway right-of-way, which is generally 80-feet wide. For describing the more expansive natural habitats through which the highway travels, a 400-foot wide corridor is evaluated. For understanding the geological context, landslides are characterized at a one-mile width. An important experience of traveling the route is, of course, the scenery and what is seen from the highway; this visual envelope is commonly referred to as the viewshed.

1.3 Corridor Vision

Highway 1 along the Big Sur Coast provides access to residences, businesses and public facilities along the route and serves as a key transportation corridor between communities and activity centers to the north and south.

> *Management of the corridor recognizes the role of Route 1 in the State Highway system and the importance of maintaining the roadway in good repair.*

California's Big Sur Coast and the highway that brings people to it are national treasures. Countless travelers cherish memories of their highway experiences: scale-defying views from high above the boundless Pacific Ocean; dark and verdant passages lined with giant redwoods; stops at rustic facilities along the way.

> *The essential corridor experience is safe, human-scale travel to and through the rugged, spectacular beauty of the Big Sur coast.*

Highway 1 along the Big Sur Coast passes through a landscape containing environmental resources of inestimable value.

> *Management activities along the highway corridor are based in the public trust, informed by an understanding of the area's intrinsic qualities, and undertaken in a manner that preserves, maintains and where possible, restores those qualities for all time.*

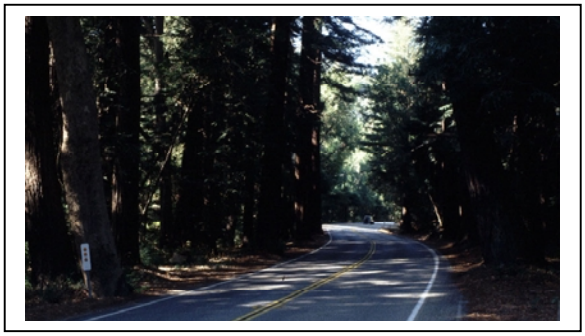


Figure 4: Giant coastal redwoods of Big Sur lining a passage of the corridor near Captain Cooper School.

1.4 Goal and Objectives

The goal of the Coast Highway Management Plan is to establish the framework for continued safe and efficient operation of Highway 1 in a manner that restores, maintains and preserves the natural and scenic character of the corridor. The plan's development and implementation rely on a collaborative process to build consensus, address needs of multiple stakeholders and allow response to changing needs over time.

The objectives for the CHMP are to:

1. Provide a product that will detail comprehensive and sustainable management strategies. Specific components would include:
    - Proactive strategies for handling recurring events and critical issues such as storm damage repair, vegetation management and aesthetics
    - Protection of sensitive resources
    - Action plan for implementation

2. Provide a process for effective resolution of corridor issues that is
    - Broad-based and accessible
    - Responsive to the needs of diverse stakeholders
    - Effective for increasing awareness and exchanging information
    - Flexible in its ability to accommodate change from new information, conditions, regulations, technology and organizational mandates

3. Provide a call to action to achieve the shared corridor vision:
    - Management strategies and actions for stewardship responsibilities
    - Programmatic-level agreements for environmental streamlining
    - Problem-solving and integrated decision-making

1.5 The Planning Process

In the aftermath of the 1998 El Niño storms, repairs kept the highway closed nearly four months. Although such storm damage was not unprecedented, this event brought a heightened level of anxiety and concern from the community and various agencies.

As the Department considered the scope for an appropriate planning process, several points became apparent.

- Multiple public and regulatory agencies, interest groups, and private parties have real stakes in the maintenance and operation of the highway as well as the continued enjoyment of resources within the corridor. This realization led to creating a stakeholder-based process for the plan's development.

- The highway has two primary functions: (1) it is a component of the California State Highway System, linking multiple points of origin and destination; (2) it provides access to the coast and associated high-value resources (both private and public), so much so that it is considered a destination experience. Emphasis on one function in isolation would create an imbalance and potentially jeopardize the other. The plan must support a balanced approach to sustaining multiple functions and values of the corridor.

- Achieving balanced decisions can be supported by making agreements in advance about how certain actions will be undertaken as a matter of routine and during emergency conditions. A collaborative decision-making process is needed to guide corridor management.

- Neither the Big Sur Coast, nor the Highway 1 corridor, nor its management context is static. Just as geologic processes continue to shape the landscape, new information drives the regulatory environment. Changing demographics, the economy, and land use along the corridor all influence travel patterns. All of these are dynamic. Likewise, the plan must be flexible, and allow for the need to respond to changing circumstances.

- The Highway 1 corridor threads a patchwork of private and public lands each with specific management objectives. Many organizations rely on adopted management plans and policies to guide their actions. This plan must complement other stakeholder planning efforts and strive for consistency in the context of managing Highway 1.

Figure 5: CHMP Planning Process diagram.

Scoping

Stakeholders were identified and canvassed about their concerns beginning in the summer of 1998 as a structure was created for the development of the CHMP.

After two meetings with key stakeholders, wider public outreach was initiated with a series of Town Hall meetings hosted by locally elected officials in Monterey and San Luis Obispo Counties. These meetings provided the planning team with a set of issues that needed to be addressed, ensured that a full range of interested parties had an opportunity to be involved and identified those who would serve on a Steering Committee to guide the overall planning process. In addition to the meetings, approximately 30 stakeholders were interviewed and over 65 stakeholder organizations were identified and contacted about the endeavor (see Appendix A—Stakeholder list).

In combination, these activities shaped the content and process for developing the plan. This step also enhanced rapport among stakeholders by enabling their direct involvement in defining the issues and laying the foundation for the plan's creation.

Plan Development Structure

This plan was prepared with guidance from a Steering Committee, a series of Working Groups and interested members of the public including property owners and residents. A Caltrans-led planning team facilitated the process.

The Steering Committee was comprised of stakeholders who volunteered during initial outreach. The Committee provided direction to the planning team and the working groups; reviewed products and considered recommendations from the working groups. As they convened regularly throughout the planning process, the group also helped promote interagency coordination and cultivate consensus building.

Steering Committee

- Association of Monterey Bay Area Governments
- Big Sur Chamber of Commerce
- Big Sur Land Use Advisory Committee
- Big Sur Multi-Agency Advisory Council
- California Coastal Commission
- California Department of Parks and Recreation
- California State Assembly, 27th District (Laird)[1]
- California State Senate, 15th District (McPherson)
- California Department of Transportation
- Coast Property Owners Association
- Coast Watch
- Federal Highway Administration
- Monterey Bay National Marine Sanctuary
- Monterey County Department of Planning & Building
- Monterey County 5th Supervisorial District
- Monterey County Travel and Tourism Alliance
- South Coast Advisory Committee
- US Congress, 17th District (Farr)
- US Forest Service

Figure 6: The Steering Committee met frequently during the development of the CHMP.

Themes that emerged from the scoping process formed the basis for technical working groups. These groups, listed below, were able to evaluate the various issues in more depth. They evaluated and provided input to special studies and inventories and developed recommendations for proposed solutions.

- Storm Damage Response and Repair
- Maintenance Practices
- Public Access and Recreation
- Scenic and Habitat Conservation
- Plan Implementation

[1] Assemblyman Laird succeeded Assemblyman Keeley in 2002

The planning team included multidisciplinary staff and consultants with expertise in the disciplines of archaeology, biology, civil engineering and design, geology, history, hydrology, landscape architecture, planning, environmental planning, design, maintenance, public participation and community involvement. This team was charged with leading the plan development process, collecting and disseminating information, providing technical expertise and resources to produce the CHMP.

Public Outreach

Opportunities for public involvement occurred at different stages and in a variety of forums. As part of the scoping effort, Town Hall meetings were held in the northern, central and southern portions of the corridor (Fall 1998). During the assessment of corridor qualities, an Open House in Big Sur provided an opportunity to review the initial findings and provide input to the inventory (March 2001). The public was also invited to review draft management strategies as part of an integrated multi-agency forum (December 2001).

Two newsletters, a web site and regular briefings at the Big Sur Multi-Agency Advisory Council provided additional opportunities for the public to follow and influence the plan's development. Department staff also made presentations at several national conferences about aspects of the planning effort.

1.6 Fulfilling the Vision

The Big Sur Coast has never suffered a lack of interest or involvement on the part of responsible, well-informed, highly motivated and vocal stakeholders. In fact the CHMP process was shaped heavily by a number of people who, through passionate articulation of their values, influenced the concept of sharing ownership over decisions and corridor management responsibilities. It is hoped that this document will live up to the dedication and foresight of those stakeholders.

The CHMP is a compilation of the major corridor issues with a corresponding set of strategies and actions. The strategies and actions will direct future decisions regarding further development and undertakings in the corridor. The CHMP also provides products and tools that will assist ongoing management activities.

The Department is committed to the success of the Big Sur Coast Highway Management Plan. As some recommended actions would require a change in business practice or an augmentation of resources, it will be important to note that budgetary constraints will determine how and when certain functions are carried out. Real success is also dependent upon commitment and participation by all stakeholders. Forming an alliance among key stakeholders and formalizing a structure for continued collaboration will be an important step to make things happen and keep actions on track. The Steering Committee has provided the foundation for a lasting organization to oversee plan implementation and provide a forum for considering new information, directions and opportunities.

CHAPTER 2 ELEMENTS OF THE CHMP

The Big Sur Coast Highway Management Plan (CHMP) updates and replaces the 1996 Corridor Management Plan prepared for its All-American Road nomination. The CHMP consists of the following components:

- Corridor Management Plan
- Management Guidelines for
    - Corridor Aesthetics
    - Landslide Management & Storm Damage Response
    - Vegetation Management

2.1 Corridor Management Plan

This primary document provides the foundation for collaborative agreement about protecting important qualities and resources in the corridor while maintaining the highway's essential function as a transportation corridor. The document is organized as follows:

Chapter 1: INTRODUCTION describes the circumstances that gave rise to the CHMP, and presents the vision for the corridor, goals and objectives for the plan, the planning participants and the process used to develop guiding principles and recommendations

Chapter 2: ELEMENTS OF THE CHMP provides an overview of the contents of the document, supporting products and the proposed environmental review components.

Chapter 3: SETTING AND INTRINSIC QUALITIES describes the elements that make the Big Sur Coast a unique and treasured place. This chapter explores the natural and cultural landscape that has shaped the history of human occupation and enjoyment of the place. A summary of the intrinsic qualities provides a more in-depth review of information about the natural, scenic, cultural, historic, and recreational qualities in the corridor.

Chapter 4: ISSUES AND CHALLENGES identifies the major issues and concerns that were identified as part of an initial scoping process. The themes that arose from this process led to the formation of technical working groups to tackle the corresponding issues:

- Storm Damage Response & Repair
- Maintenance Practices
- Scenic & Habitat Conservation
- Public Access and Recreation
- Implementation

Chapter 5: ACTION PLAN describes how the issues can be addressed and is organized into four strategic management areas:

- Managing for Landslides
- Highway Features and Function
- Supporting the Traveler's Experience
- Environmental Stewardship

Chapter 6: IMPLEMENTATION outlines a structure for carrying out the plan and continuing a collaborative process for decision-making.

2.2 Management Guidelines

A series of Management Guidelines provide guidance for day-to-day activities to best sustain the corridor intrinsic qualities. These documents are intended to reflect stakeholders' values for how actions are carried out, whether it is a roadside treatment, a request for a new sign or a proposal to undertake a large capital highway improvement project.

The Management Guidelines provide:

- Insight to stakeholder values as they relate to corridor management
- A foundation for accountability and the basis for institutionalizing best practices

Best practices are those that benefit from history, experience and the availability of new technology. They also allow for adaptive change as new information becomes available. By attempting to capture such practices, these documents can be used to guide decisions for future actions. The guidelines are intended as a reference for practitioners of various disciplines within Caltrans as well as agency and community stakeholders within the corridor.

The CHMP includes three sets of management guidelines:

- ***Guidelines for Landslide Management & Storm Damage Response*** — Addresses highway corridor management in context of the background geology as the source of natural instabilities; this includes activities to prevent, anticipate and respond to the effects of landslide-related damage to the highway and to effectively respond to emergency situations created by such events.

- ***Guidelines for Corridor Aesthetics*** — Speaks to managing aspects of the highway and roadside environment in a manner that honors the unique scenic, natural and historic qualities of the corridor while protecting essential traveler safety.

- ***Guidelines for Vegetation Management*** — Outlines best practices for managing roadside vegetation including weed control and site restoration after disturbance to promote the long-term conservation of native habitats.

2.3 Supporting Products

The CHMP has been developed with the benefit of detailed resource inventories and technical studies conducted for the corridor.

CORRIDOR INVENTORY REPORTS

An in-depth evaluation of the corridor intrinsic qualities was conducted as part of an overall resource inventory. The inventories were conducted at a level of detail that can be used to help determine the potential environmental impacts associated with certain categories of highway activities. The inventory generated a series of reports including:

- Cultural Resources & Qualities
- Natural Environment
- Recreational Qualities and Features
- Historic Resources & Qualities
- Scenic Qualities

SPECIAL TECHNICAL REPORTS

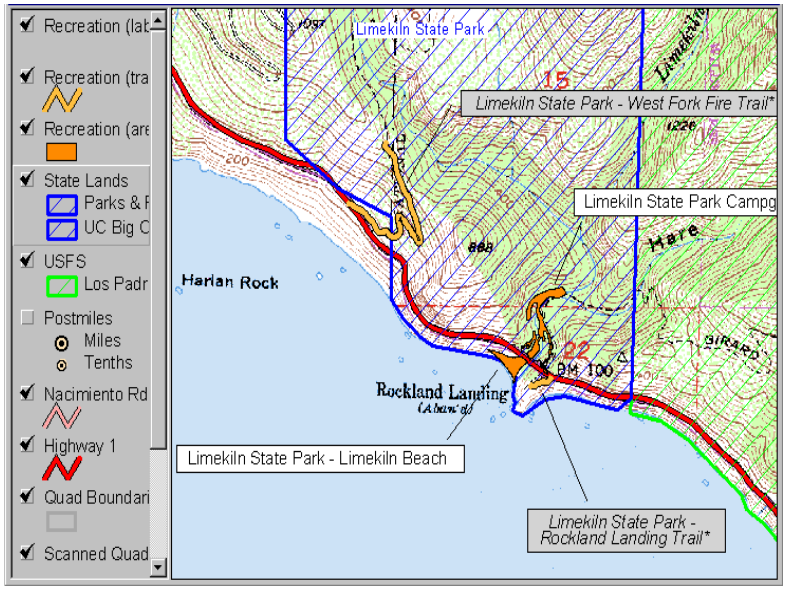
Greater analysis was sought about the geologic factors that influence the overall reliability of the highway. In particular, information was collected about geology and landsliding as well as the conditions of highway facilities that convey surface water. The baseline and historical information capture the complexity of maintaining a highway along the Big Sur Coast. These reports included:

- *Slope Instabilities in the Highway 1 Corridor: Road Condition and Hazard Potential,* Caltrans, District 5 (2000)
- *Landslides in the Highway 1 Corridor: Geology and Slope Stability along the Big Sur Coast*, CA Division of Mines and Geology (2001)
- *Estimated Sediment Yield from Coastal Landslides and Active Slope Distribution along the Big Sur Coast*, Hapke, Cheryl (USGS/UCSC), (2003)
- *Culvert Inventory: Hydrology, Debris Protection, Inspection and Replacement*, Caltrans, District 5 (2001)
- *History of Road Closures*, JRP Historical Consultants, (2001)

GIS DATABASE

A Geographic Information System (GIS) database for the corridor has been assembled for the resource inventory and technical information collected above. This database for the entire corridor is the most comprehensive resource inventory that has ever been compiled for a rural California highway corridor.

This information resource will be widely available and would support decision-making for highway-related activities and coordinated resource management activities along the corridor. For example, the database will facilitate environmental scoping for a site-specific project and it can also provide baseline information about resources that may have been affected by a storm damage project. The availability of this information up front can support a course of action to avoid, minimize or mitigate impacts to these resources from reconstruction activities.



A Geographic Information System (GIS) database allows for spatial information to be stored and displayed against different backdrops and with various layers of data.

The resource inventory for the corridor was collected on aerial photographs and can be displayed with either the digital aerial photography or USGS topographic maps as shown to the left.

Spatial data are configured for viewing in an ArcView GIS application against either aerial photographs or scanned USGS quads as base maps. Tabular data are stored in a Microsoft Access database and are viewable through user-friendly forms. Storing tabular data in Microsoft Access also makes the data accessible to users who do not have ArcView GIS software.

2.4 Authority and Applicability

This Corridor Management Plan (CMP) is prepared under the authority of the National Scenic Byways Program, as a substantive revision and update to the original 1996 plan. The FHWA has established the required components for a CMP (Appendix B) and describes it as follows:

> *The CMP is a written document in which participants lay out the goals, strategies, and responsibilities for conserving and enhancing a scenic byway's most valuable qualities.*

South of the Monterey-San Luis Obispo County line, the All-American Road designation was recently extended as far south as the San Luis Obispo city limit. However, the geographic limits of the CHMP extend only three-miles into San Luis Obispo County. Coordination across the county line is important for

The CHMP, which exists as the combination of this CMP together with the supporting management guidelines, is also consistent with the authority and responsibility of the Department of Transportation to maintain and operate Highway 1. The CHMP has been prepared in the spirit of collaboration with key stakeholders, including representatives of local communities, non-governmental organizations and government agencies. While improved coordination is a desired outcome of the CHMP, there is no attempt to alter or change the authority, jurisdiction or responsibility of any entity or organization.
The preparation of the CHMP was developed not by any mandate, but rather as a good faith effort to address long-standing issues in the corridor that affect a variety of stakeholders. The CHMP is applicable to a wide variety of activities along the highway.

While many of the strategies and actions are within the Department's responsibility, there are others that rely on others for success. The CHMP does not impose requirements on any organization, agency or individual, rather it sets forward a vision and framework for decision-making that is inclusive and that results in improved interagency coordination.

As shared ownership over decisions in the corridor is a desired outcome of the planning effort, so will the responsibility for carrying out the provisions of the CHMP.

2.5 Environmental Streamlining

The CHMP will stand on its own as an overall approach for managing the Highway 1 corridor. Corridor Management Plans are not subject to compliance under the National Environmental Policy Act (NEPA). The CHMP is largely a program for environmental stewardship and is suitable for implementation without an accompanying environmental document.

Individual activities and practices pertaining to the highway are consistent with the Department of Transportation's existing authority and responsibility to maintain and operate the highway. The CHMP does not alter the Department's obligations to comply with state and federal environmental laws and regulations on individual projects or actions. Therefore, the CHMP itself is also not subject to review under the California Environmental Quality Act (CEQA).

A desired outcome of the CHMP process, however, is to achieve aspects of environmental streamlining. Streamlining is a national initiative that calls for a coordinated environmental review process to reduce project delays that also protects and enhances environmental quality[2]. Highway repairs necessitated by seasonal storm damage and regular landslide activity recur throughout the corridor and have the potential to impact similar resources. Toward this end, stakeholder agreement about specific management activities, environmental impacts and mitigation/monitoring requirements is sought.

Although both CEQA and NEPA provide for exemptions from formal environmental review documentation when criteria for an emergency condition have been met, this does not release the Department from complying with other regulatory requirements. While some compliance requirements may be waived, more often they are deferred to compliance after-the-fact, certain actions may still require pre-authorization.

When major work is required either to prevent an imminent failure or re-open the highway after a storm event, agencies may be asked to make decisions under high-pressure circumstances with little information. In the past, mitigation negotiated under these conditions has been costly and inefficient. If prior agreement about impacts and mitigation requirements can be achieved, future decision-making in response to major events can be improved and crisis-driven negotiations avoided. Relationships with regulatory agencies would benefit from this approach.

Environmental review is proposed as a next phase of work under the CHMP. A program-level analysis is proposed to address types of actions. This type of document will evaluate the potential environmental consequences, avoidance and mitigation

[2] Environmental Streamlining National Memorandum of Understanding, 1999, developed in response to Section 1309 of the Transportation Equity Act for the 21st Century (TEA-21)

strategies for categories of activities. The analysis will rely largely on, but not be limited to, resource information developed with the CHMP. Although future individual actions would still require subsequent environmental review, less overall time should be expended where impacts and mitigation strategies are determined to be consistent with the program-level document. At this level, mitigation strategies developed at a more regional scale, could ultimately achieve greater environmental benefits than project-by-project mitigation.

The Department proposes to begin program-level environmental analysis under CEQA to address activities for culvert rehabilitation and replacement. Subsequently, the Department together with FHWA will embark on a program-level analysis under CEQA and NEPA for the larger and more complex issues associated with landslide-related management issues.

2.6 Regulatory Compliance

- **Coastal Act:** The California Coastal Act imposes jurisdiction over all highway activities that meet the Act's definition of development. Authority for issuing Coastal Development Permits in the study area is delegated to the counties of Monterey and San Luis Obispo via their respective certified Local Coastal Programs. The environmental analysis described above will be part of the Department's request to the California Coastal Commission for a Public Works Plan (PWP) as an alternative to project-by-project review for coastal development permits. As a pilot effort, the environmental review and proposal for a Public Works Plan is proposed to focus on the culvert rehabilitation and replacement program, a well-defined and relatively uncomplicated set of actions. Assuming success at that scale, a subsequent program-level environmental review would be proposed for the broader range of actions associated with landslides and storm damage response. Subsequently, an amendment to the PWP would be sought to include that set of actions.

- **Federal Endangered Species Act (Section 7):** Habitat for the federally listed Smith's blue butterfly is present throughout the corridor. Because of its prevalence and proximity to the highway, almost any ground disturbing activity along the corridor has the potential to affect the species. With very few exceptions, any project along the Big Sur Coast involves at least informal consultation with the US Fish & Wildlife Service (FWS). The Department is currently developing a programmatic Biological Assessment (BA) together with the FHWA to consult with FWS on the potential impacts and appropriate mitigation strategies throughout the corridor. It is anticipated that as a result of the consultation process, the FWS would issue a Biological Opinion.

  Another similar agreement is proposed for a larger geographic area (covering several coastal counties, including the Big Sur Coast) for the California red legged frog. The Department and FHWA anticipate that through the consultation process, the FWS would issue a Biological Opinion. Although occurrences of other threatened and endangered species may be found in conjunction with highway-related activities, they are likely to be rather limited. A majority of the endangered species consultations that could be expected in the corridor would be addressed by these two biological opinions.

The scope of activities for the proposed programmatic BAs will be comprehensive, in contrast to the approach for the environmental document and the PWP, which will focus on a limited scope of actions (i.e. culvert program).

- **National Historic Preservation Act (Section 106):** The Carmel-San Simeon Highway Historic District consists of the remaining features associated with the original highway construction (i.e. concrete arch bridges and rubble masonry features). The rubble masonry culvert headwalls are among the most common of these features encountered with highway projects. Under the current approach, each project involving such a feature requires an individual consultation with the State Historic Preservation Office (SHPO). To facilitate project delivery, the Department is preparing a Programmatic Agreement (PA) between the Department, FHWA, and SHPO that focuses on the rubble masonry features of the District. The PA would address a range of activities and their potential effects, and outline standard mitigation strategies. As with the agreements proposed under the Section 7 consultation, the description of activities in the PA is comprehensive.

Additional streamlining initiatives for the corridor that may be pursued also include a Regional General Permit (RGP) under Section 404 of the Clean Water Act from the US Army Corps of Engineers (ACOE). Further discussions with agencies such as the California Department of Fish & Game and the Monterey Bay National Marine Sanctuary may also result in interagency agreements for certain actions. Likewise, agreements with neighboring landholding agencies, such as California Department of Parks & Recreation and the USDA Forest Service may also be considered.

2.7 Funding

The Federal Highway Administration and the California Department of Transportation funded the development of the CHMP with grants from the Scenic Byways Program and the State Planning & Research Program.

2.8 Relationships to other Plans

A number of public agencies with responsibilities along the corridor are in various stages of reviewing and updating their respective management plans. The timing provides a unique opportunity for the plans to be complementary and cohesive.

Agency	Plan Type
CA Coastal Commission	Local Coastal Program Periodic Review (Monterey County)
CA Dept of Parks & Recreation	Pt. Sur State Historical Park General Plan
CA Coastal Conservancy	California Coastal Trail Plan
Monterey County	General Plan Update
Monterey Bay National Marine Sanctuary	Sanctuary Management Plan Review
San Luis Obispo County Council of Governments	Route 1 San Luis Obispo North Coast Corridor Enhancement Plan
USDA Forest Service	Forest Management Plan
U.S. Bureau of Land Management	California Coastal National Monument Management Plan

Each of the plans is being prepared in accordance with the authority and mandate of the respective jurisdiction.

The Coastal Act has the broadest regulatory jurisdiction over the Department's actions that constitute development under the Act. Both the General Plan update and the periodic review of the Monterey County Local Coastal Program have implications for development activities on Highway 1. Planning for the California Coastal Trail promotes Coastal Act priorities for public access and will also influence certain highway-related activities.

The All-American Road designation was recently extended south of the Monterey County line to the San Luis Obispo city limits. The successful nomination by the San Luis Obispo County Council of Governments was supported by a Corridor Enhancement Plan to meet the FHWA's requirements (See Section 2.4).

The Marine Sanctuaries Protection Act prohibits discharge of material into the ocean that could harm a Sanctuary resource. Highway activities on the steep slopes above the ocean are of concern to the Sanctuary with regard to the potential for impacts to the intertidal and nearshore habitats.

The USDA Forest Service and the California Department of Parks and Recreation own and manage lands adjacent to the highway. Management practices should be compatible with those of neighboring public lands. Land acquisition, through easements or purchase, can be a component of highway repairs in these areas.

Making Connections

Highway 1 provides the first order of public access to the coastline. Management strategies that facilitate access are consistent with the Monterey County Local Coastal Program and the California Coastal Act of 1976.

Opportunities for synergy among plans are evident with the efforts to develop the California Coastal Trail. Along the Big Sur Coast, Highway 1 not only provides essential connections to existing trails but, in some cases, essentially functions as the "trail" itself where off-highway options do not exist along the length of the coast.

Providing for safe non-motorized travel along Highway 1 is an important objective for the CHMP, consistent with the Department's policy.

The relationship of the highway to the newly designated California Coastal National Monument is primarily one of visual access.

Figure 7: This view from the Hearst Ranch in San Luis Obispo County along the newly designated section of the route highlights the memorable gateway experience as one travels north to reach the Big Sur Coast.

Collectively, these plans should complement each other. Although each agency has its own mission, opportunities should be sought to assist each other in achieving those missions. The schedule for plan updates provides such a unique opportunity.

CHAPTER 3 SETTING & INTRINSIC QUALITIES

The most vivid images of the Big Sur Coast are of steep rocky cliffs with the ocean crashing at the shore. While breathtaking views from the narrow roadway overlooking the ocean may be the most dominant memory for anyone who's experienced the coast, the vast landscape is also abundantly rich with many resources.

Professionals such as landscape architects, biologists, historians and archeologists have recognized and evaluated outstanding qualities. While the visitor may use terms such as "stunning" or "dramatic" to describe the corridor, the landscape architect rates the quality of a view, and the biologist notes the range and distribution of plant and animal species. All visitors to the coast, whether resident, scientist or distant traveler, invariably conclude there is no other place in the world like Big Sur.

Figure 8: A treasured place: Anyone who's traveled Highway 1 south of the Monterey Peninsula knows its All-American Road designation under the National Scenic Highway Program is well deserved. The highway is a feat of engineering and design, hugging mountain slopes, crossing canyons, and winding high above the spectacular Big Sur coastline.

3.1 Elements of the Setting

Natural features of the corridor such as the geology, climate, streams and wildlife all contribute to the treasure that is Big Sur, and have preceded human influence. Other features have been introduced more recently: the highway itself, inns, restaurants, settlements, and recreation facilities. Most of these latter elements of the setting celebrate and bend before the natural elements as they enrich opportunities to enjoy and pass time in the corridor. Each of these elements is manifest in a special way along the Big Sur Coast. [3]

The corridor maps developed for the CHMP reflect the sense of place in which the community identifies itself. The corridor is characterized by a series of thirteen sections

[3] The information in the Geology and Climate sections in this chapter are taken largely from Henson, Paul and Usner, Donald J. The Natural History of Big Sur, 1993.

characteristic of the geography[4]. These sections, outlined below in Table 1 are also depicted on the map in Attachment 1.

Name	**Boundary Features**			
	Begin	**P.M.**	**End**	**P.M.**
Ragged Pt	San Carpoforo Creek	71.4	SLO/MON Co. line	0.0
Gorda Coast	SLO/MON Co. line	0.0	Willow Creek	11.6
Pacific Valley	Willow Creek	11.6	Wild Cattle Creek	17.3
Lucia Coast	Wild Cattle Creek	17.3	Lucia	23.0
Big Creek Coast	Lucia	23.0	Rat Creek	30.8
Esalen Coast	Rat Creek	30.8	JP Burns	35.8
Partington Coast	JP Burns	35.8	Castro Canyon	43.1
Big Sur Valley	Castro Canyon	43.1	Molera	51.2
El Sur Ranch	Molera	51.2	Little Sur River	56.1
Bixby Coast	Little Sur River	56.1	Rocky Creek	60.0
Garrapata Coast	Rocky Creek	60.0	Malpaso Creek	67.8
Carmel Highlands	Malpaso Creek	67.8	Point Lobos	70.4
Point Lobos	Point Lobos	70.4	Rio Road	72.6

Table 1: Corridor sections of Highway 1 along the Big Sur Coast.

3.1.1 Geology

One experiences a sense of isolation on the road's winding course along a narrow shelf high above the ocean with sheer rock walls rising along the inland edge. The steep and slide-prone nature underlies the remote and wild character of the corridor. The essence of this experience owes to the geology of the Big Sur Coast.

Figure 9: An aerial view above Big Creek provides perspective on the nature of landslides along the corridor. Landslides are part of the natural process that continues to shape the steep coastal landscape between Point Lobos and San Carpoforo Creek.

[4] Features are also identified by postmile, abbreviated by P.M. Postmiles identify the location along the highway measured in miles and increase from south to north; postmiles begin at 0.0 at county boundaries.

At a very large scale, one can see a marked southeast to northwest trend of the coastline and the Coastal Range of the Santa Lucia Mountains. This pattern continues due east from the coast through the Salinas Valley, Diablo Range, and San Joaquin Valley on to the Sierra Nevada mountains. This is a fundamental consequence of the forms and joining process of the massive Pacific and North American Plates that drifted together tens of millions of years ago.

Other patterns are more accessible to the land traveler: the abrupt rise of the Coastal Range so close to the ocean; spur ridges and ravines running perpendicular from the mountains to the ocean; and variations in the rocks that comprise the cliff walls and land forms along the route. The steep mountains and ridges define the course of the highway as the road wraps around the ridges and spans valleys. The precipitous drop-off from the mountain peaks, the steepest coastal slope in the contiguous states, and the strong perpendicular forms continue into the ocean as deep undersea canyons off shore.

Along the highway, ridges and ravines give way to coastal terraces, gentler slopes separating the mountains and the ocean. In the typical ridge and ravine topography, road cuts reveal a variety of rock types and formations. A highly fractured mixture of rock characterizes the southern part of the coast; the northern section by hard and more resistant blocks of rock.

The Santa Lucia Range is comprised of two primary blocks of rock: the Nacimiento block and the Salinian block. The Nacimiento block is part of the Franciscan complex, an extensive group of rocks found throughout California's coastal areas. This block was formed of sedimentary material joined with and crushed into metamorphosing accretionary wedge material. As a result the sedimentary layers of the Franciscan complex tend to be tilted at all angles that are difficult to differentiate. The metamorphic rock was formed at relatively higher pressure and higher temperatures than Salinian metamorphic rock. As a result, the Nacimiento block is softer, less metamorphosed, and much more prone to erosion than the Salinian block material. The presence of this undifferentiated sedimentary and metamorphic material, known as the "Franciscan melange", is the primary reason the southern parts of the Santa Lucia Range are lower than the Salinian peaks to the north.

Figure 10: An outcrop of Franciscan sandstone and shale at Alder Creek

The Salinian block to the north and east of the Nacimiento block is comprised of granitic and relatively hard metamorphic rock. The highway cuts through Salinian rocks especially between Grimes Canyon and Julia Pfeiffer Burns State Park. Granitic formations are especially visible in the coastal coves at Garrapata State Park and Partington Cove. Although Salinian block material is considerably harder, more rugged

and crystallized than the Franciscan complex, it does weather, crumble and erode. The northern and eastern portions of the Big Sur coast are subject to both large deep-seated rockslides and shallow debris flows and rock slides.

Both the Nacimiento and the Salinian blocks are covered by sedimentary rocks that accumulated when the bedrock blocks were submerged below the ocean and by more recent surficial deposits, materials that have deposited from up-slope erosion. As a result, neither the Nacimiento nor the Salinian base rocks is easily viewed away from road cuts, canyons and cliffs.

Geologists point out that the form of the Santa Lucia range and coastal area is constantly changing. In the aftermath of a ravaging winter storm it may seem that the rugged mountains are doomed to be worn away as tons of material rush down the mountains to the sea. It is true that the elements wear mountains down. The Santa Lucia mountains are a relatively young, steep and highly erodable range in contemporary times. At the same time, uplift of the mountains from the sea is also occurring. In addition, considerable slide material is re-deposited on the land before reaching the sea. Sediments have accumulated in streams raising original streambeds by hundreds of feet and forming fluvial fan terraces. In addition, the bedrock under some of the marine terraces along the highway is covered by accumulations of sand, cobble and other materials up to 100 feet thick.

3.1.2 Climate

Classified as a Mediterranean climate, the coast is characterized by mild temperatures year-round and dry westerly summer airflow with most rainfall confined to the winter months. The central California coastal region is geographically consistent with Mediterranean climates worldwide[5]. However, one main difference is the giant persistent North Pacific high-pressure system centered offshore to the northeast throughout the summer months and the effects of the ocean itself. The North Pacific high-pressure system deflects summer storms from both the north and south away from the central coast, and is the main reason for the west winds and dry conditions that typify the summers.

Cool Pacific Ocean waters affect inland temperatures and give rise to a characteristic pattern of coastal fog that is most prevalent in the summer months. While the temperature of the ocean water changes very little during the year, it is especially cold during late spring and summer when the North Pacific high is delivering cool waters to the coast. An upwelling of cold waters from the deep submarine canyons that lie offshore cools the water further. In the summer, offshore ocean waters tend to cool a shallow air layer that moves inland to cool the near coastal land. In the winter, the coastal water is warm relative to the landmass and contributes to a warming effect. In this way the coastal waters serve to minimize the variation of seasonal air temperatures on nearby land.

Like the water movement associated with the North Pacific high, the upwelling movement of cold waters from the offshore canyons also peaks during the spring and summer months contributing to the heavier coastal fog during these months. In the normal pattern, fog forms offshore as the cold near-coastal waters cool the sun-warmed

[5] Mediterranean climates are found on the west coast of a continent, within approximately 32-40 degrees north or south of the equator.

surface air. The fog moves onshore in the evening and typically breaks up by late morning. However, fog often lingers all day along the certain parts of the California coast, including Big Sur.

Figure 11: Typical Big Sur weather pattern creating a fog-shrouded morning drive.

The basic Mediterranean climate is further modified, and dramatically so, by the Santa Lucia Mountains. Land rises from sea level to heights greater than 5,000 feet in just three to seven miles inland. This foreshortened coastal area west of the peaks captures significant amounts of rain, averaging over 40 inches a year near the coast and rising with elevation to an estimated 90 inches near the mountain crests. Very little rain falls to the east in the rain shadow of the Santa Lucias.

The 40-inch average annual rainfall figure for the length of the coast masks tremendous variations. Some coastal locations, especially where there are wide coastal terraces, average only slightly over 20 inches of rain a year, while locations between Lucia and Big Sur average between 45 and 60 inches. Within a short distance of the coast, highly varied local topographic features can be found: high mountains, low mountains, ravines, canyons and ledges each with its unique exposures to the ocean, breezes and sunlight.

Rainfall also varies greatly from year to year, ranging from near drought in years when the North Pacific high remains into the winter, to the legendary El Niño -driven deluges of winters such as 1982-83 and 1997-98. In 1982-83, 85 inches of rain were recorded in Pfeiffer-Big Sur State Park, while rainfall topped the rain gauge at 178 inches at the 4000-foot high Mining Ridge weather station. Rainfalls also come to Big Sur in storms of widely varying intensities. In the absence of the protective North Pacific high, violent storms that have traveled thousands of miles across the ocean can slam into the coast. These storms may be delivered with extremely high winds and intense, driving rains. Winds in excess of 100 miles per hour have been recorded at Point Sur and nearby ridge tops.

Precipitation also falls in the form of snow on the highest peaks of the mountain range. Accumulated snow typically remains on the mountains for several weeks each winter. The warming effect of the ocean generally precludes snow accumulation or even frost at lower elevations near the coast itself.

Variations in rainfall frequently challenge the capacity of the land to absorb water and the capabilities of highway culverts to convey water.

3.1.3 Hydrology

While aspects of geology and climate are fairly tangible at any time of the year, the effects of hydrology are not so apparent in fair weather months. The erosive work of surface water is done in the winter months.

Over 90 percent of the annual rainfall in Big Sur falls November through April. Basic hydrologic cycles describe components of rainfall into groundwater recharge, evaporation and runoff. When rainfalls are heavy and temperatures cool, the evaporation rates are insignificant and the capacities of groundwater recharge and surface runoff will be strained.

The potential to accommodate rainfall through infiltration is limited by relatively constant factors (soil porosity and steepness of terrain) and variable factors (rainfall intensity and soil saturation). Upslope from Highway 1, neither soil porosity nor slope steepness favor infiltration. Short intense rainfall here results in heavy run-off with little infiltration. The worst infiltration problems occur when above average rainfall combines with a sequence of storms that arrive one after another for days or even weeks. In such situations, soils become saturated, giving rise to slides, slip-outs, and debris flows. In places where the soil does stay in place, water may simply pass through the soil. In describing the aftermath of the 1997-98 El Nino storms in Big Sur, a Caltrans maintenance worker described that water seemed to come out of the slopes everywhere he looked.

Complex natural systems of waterways carry rainwater and snowmelt from tall peaks to the ocean. Water initially fills minor drainages from which evaporation or percolation will occur, remaining water spills into intermittent streams that contribute to creeks and larger systems ultimately flowing to the ocean.

In Big Sur, there is insufficient distance from the high mountain peaks to the ocean for a complex network of watercourses to develop. In the aftermath of storms, rapidly falling water simply rushes down rock faces and through the many ravines towards the sea, passing under the Highway 1 via bridges or culverts. In fact, Highway 1 along the Big Sur Coast incorporates a remarkable number of such facilities: 32 bridges and more than 700 culverts within its 75-miles.

While the flow of water to the sea along with rocks, mud and debris is a natural phenomenon in the young Santa Lucia mountain range, the presence of culverts and the highway itself is not. Culverts become clogged or overrun; the highway ledge becomes a place of repose for fallen materials.

3.1.4 Transportation

Construction on the two-lane Carmel-San Simeon Highway was completed in 1937 using work crews augmented by convict labor. In the early years, use of the road was highly seasonal, concentrated in the fair summer and fall months. The road was frequently closed during the wintertime due to the effects of storm damage and landslides.

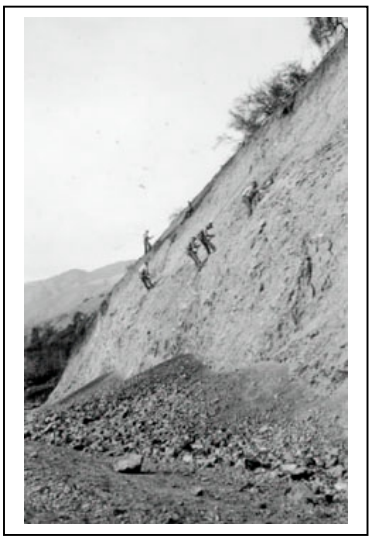


Figure 12: Convict labor cutting slopes in 1932 during construction of the Carmel-San Simeon Highway.

Although a high percentage of highway trips are based in tourism and recreation, land sales never led to extensive development. The vast majority of land remains relatively undisturbed and is held in a mosaic of private and public ownership and unlikely to see significant new development.

The volume and mix of vehicles on the highway have changed since the early post-World War II days. From an extremely light period during the wartime blackout days, today there is more than 5,000 AADT (annual average daily traffic) between Big Sur and the Carmel River Bridge (Appendix C). Recreational traffic is estimated to comprise 95% of all corridor trips during peak summer months and "driving for pleasure" constitutes the majority of the recreational traffic that originates outside the corridor. Vehicle mix includes large passenger cars, recreational vehicles, tour buses, motorcycles and bicycles. Slow moving vehicles share the road with local residents and delivery trucks whose drivers may be more focused on their destinations than the views.

The transportation concept[6] for the Big Sur Coast Highway provides for a 32' paved width consisting of two 12-foot lanes each with a 4-foot paved shoulder. The actual width of travel lanes, however, is as narrow as 9-10 feet in some places. In some stretches shoulders are completely absent or considerably less than four feet.

For analysis and planning purposes, State Route 1 along the Big Sur Coast is divided into three segments. Traffic volume is three to four times heavier in the northern segments of the Big Sur Coast than in the south. More through trips originate in the Monterey Peninsula than in San Luis Obispo County, as trips from the north are easily day return trips with several State Parks and the Big Sur Valley within 26 miles of the Carmel River. Furthermore, views from the southbound (outside) lane are more spectacular. Traffic in the northern end of the corridor (Garrapata Creek to Carmel River) has increased more than ten percent over the past 10 years. By contrast, traffic in the south end of the corridor has increased by less than five percent over the same

[6] The Transportation Concept Report (TCR) for State Route 1 in District 5 reflects Caltrans' long-term (20-year) concept or plan for accommodating travel demand.

period. Traffic is expected to increase by another 25 percent all along the corridor by the year 2025. Volumes are highly seasonal on the Coast Highway. Peak month traffic exceeds the annual average daily traffic (AADT) by more than 50 percent in some portions of the corridor.

A qualitative measure of how the route operates during peak hour traffic is known as Level of Service (LOS), which summarizes the effects of speed, travel time, traffic interruptions, freedom to maneuver, comfort and convenience, safety, operating cost and other factors. The central section of the highway corridor (between Castro Canyon and Andrew Molera State Park) currently operates at LOS D (approaching unstable flow where temporary restrictions to flow may cause substantial drops in operating speeds). Traffic in the Big Sur Valley is also expected to cause a drop in the level of service by the year 2025. The LOS calculations are based upon peak hour of the annual average daily traffic. Because traffic is so highly seasonal, both LOS and projected LOS could be considerably reduced on a typical day in high summer season.

Ordinarily, LOS C is the target level of service Caltrans uses for a two-lane rural highway. Typically, measures to reach this level might include: additional capacity (travel lanes), turn lanes and/or passing lanes. As stipulated by the California Coastal Act, Highway 1 along the rural Big Sur Coast is to remain a two-lane facility. Optimizing the route's ability to maintain consistent flow of traffic means prudent application of operational features. Turnouts and left-turn lanes are not an uncommon sight in the corridor; passing lanes are not part of the current mix, but could be considered at some point as demands on the facility increase. The basis for policies that discourage expansion of the roadway is appreciation for the scenic and recreational qualities of the route and belief that the highway should be subordinate to the wild and natural character of the land. The fear of a widened highway is that it would diminish the sense of escape from urban patterns so strongly associated with the coast highway.

The most readily available method for improving LOS on this route is additional turnouts and left-turn lanes (where warranted). Strategies to reduce demand may include providing additional transit; strategies to promote alternative modes could be supported with off-highway facilities for pedestrians and bicycles in appropriate locations.

Advances in new technology, known as Intelligent Transportation Systems, also carry the potential for applications on the Big Sur Coast. Options include changeable message signs that are locally controlled[7], closed circuit television for monitoring traffic and road conditions from afar, highway advisory radio, and smart call boxes. Any proposed physical change or installation to improve traffic flow from signing to shoulder widening would be carefully evaluated for overall compatibility with its setting.

Monterey-Salinas Transit provides twice daily bus service between sites on the Monterey Peninsula and Andrew Molera State Park and the Nepenthe Restaurant complex in Big Sur. This tourist-oriented service is normally operated from late April through October. There is no community-sponsored transit service for the many service workers employed within the corridor.

Highway 1 along the Big Sur Coast is part of the Pacific Coast Bike Route and sees hardy bicyclists regularly. For the most part bicycle trips are recreational trips that do not serve as substitutes for motorized travel. The highway is a Class III bicycle route where

[7] The control center for District 5 is the Traffic Management Center (TMC) in San Luis Obispo

cyclists share the road with vehicles and do not have designated bike lanes. Cyclists may either share the travel lane with motorized traffic or move to the shoulder where sufficient paved width exists. Commercial land use development and active recreational areas tend to be spread out rather than clustered along the corridor. This spacing, along with narrow rights-of-way tend to limit the potential for developing off-highway paths for pedestrians or Class 1 separated bike routes parallel to the Highway.

Figure 13: Cyclist using the Class III bicycle route along the Pacific Coast Bike Route within the corridor.

3.1.5 Land Use & Socio-Economics

The socio-cultural landscape of Big Sur today has its roots in history, which is described in the Intrinsic Qualities section later in this chapter. Notably, completion of the highway itself triggered development of more substantial tourist-oriented facilities than existed earlier. Unlike newly accessible areas in a more hospitable topography, however, nothing resembling an urban settlement pattern with a full complement of goods and services has ever been developed here. For the most part, today's land use pattern is not very different in type or intensity from what was there a decade or so after the highway was completed. However, the newer facilities—both commercial establishments and private residences—tend to be larger and more luxurious than those from earlier years.

The corridor lies within three local planning areas. The southernmost three miles (San Carpoforo Creek to the Monterey County line) are within in San Luis Obispo County. Land use in this area is subject to policies of the San Luis Obispo County Local Coastal Program and the North Coast Area Plan. The Monterey County portion of the corridor is subject to policies of the Monterey County Local Coastal Program in addition to specific policies of two planning areas: Carmel Coastal and Big Sur. 68 miles of the 75-mile corridor are within the Big Sur area. Policies for all three planning areas support preservation of the incomparable scenic value of the area and the way-of life that is cherished by local residents.

Land use designations are predominantly Rural Lands or Public Lands. Rural Land uses provide for farming or grazing, tourist facilities and private residences. Rural Lands policies provide for minor expansions to the several clusters of commercial development along the corridor that are designated as Rural Commercial Centers. These centers include the well-known places where both historic and more recently developed tourist

facilities are located, including: Big Sur Valley, Lucia, Gorda and Pacific Valley, as well as Rocky Point Restaurant, Big Sur Inn and the Coast Gallery.

Public Lands include the Los Padres National Forest and units of the California State Park System including Limekiln, Julia Pfeiffer Burns, Pfeiffer Big Sur, Andrew Molera and Garrapata State Parks and Pt. Lobos State Reserve. The University of California's Big Creek Reserve and numerous smaller state facilities including John Little State Reserve, Point Sur State Historical Park and Carmel River State Beach are also located along the route. These holdings provide important open space and recreational opportunities and areas for resource protection.

Figure 14: Garrapata State Park.

The role of land use planning has largely been to ensure that development that does occur is harmonious with what has come before and that both resource protection and community preferences are reflected in policy. Most of the more recent residential development has occurred in portions of the corridor area closer to existing urban areas to the north. Since 1970s state and federal agencies and non-profit organizations have purchased large blocks of land throughout the corridor, while implementation of coastal policies have sharply limited the level of new development in the viewshed.

Physical constraints combined with strong preservation values have resulted in a natural brake on development; the region is remote, which discourages settlement by those more accustomed to modern conveniences. Two small public schools have operated in the corridor for several decades with stable enrollment. The Pacific Valley School provides K-12 instruction for a current enrollment of 25 students in a single facility school district. Approximately 75 students are currently enrolled in Captain Cooper Elementary School serving families in the Big Sur Valley area. Children who reside north of Palo Colorado Canyon attend the Carmel River School. Older students travel longer distances (up to 75 miles each way for those in the south) to attend Carmel Middle School or Carmel High School located near the City of Carmel-by-the-Sea.

The population of Monterey County grew dramatically in the 1990's and a 35% increase is projected by the year 2020. Proportional growth is not expected for Big Sur. The estimated population along the Big Sur Coast in 1990 was 1391 and it is projected to

increase at a rate of only 13 persons per year, reaching about 1592 by 2006.[8] The population of Big Sur is expected to remain relatively stable into the near future.

Throughout history, residents of Big Sur have been described as hardy, independent people who value their privacy. This description is based in local lore and inference from the rugged isolated setting in which they live rather than in primary data. Independent, privacy-loving people do not court publicity or pollsters.

The resident population includes innkeepers, business proprietors, ranchers and their employees; government employees (and their families) with state parks, national forest and highway maintenance. Other residents, who may be less visible on a day-to-day basis include writers, artists and notable persons. In recent years, rising real estate prices have presented a kind of "means test" for those who have found inspiration in the rugged isolation of Big Sur (and to other would-be residents as well). In the early and mid-20th century, writers, artists and musicians could live in simple dwellings in the Big Sur area before achieving commercial success. Today a new artist resident is more likely to have achieved a significant measure of economic success in the form of a best-selling book, gallery showings or a recording contract.

There has always been a wide range of income and means among area residents. Many employees of the tourist industry and government employees still reside in Big Sur, although an acute shortage of affordable housing has made long-range commuters of many such workers. For the most part, common bonds of place and willingness to come together in emergencies have bridged status differences among residents. A brief exception to this occurred in the 1960s and 70s when throngs of young people descended on Big Sur, fleeing what they viewed as a stifling standardized, commercial popular culture; it became characterized as the "hippie invasion".

In time, Big Sur returned to its quieter ways. In contrast to the landless youth of the later sixties, the founders of Esalen Institute in 1962 created a center for alternative education and transformational practices that has grown and matured and still thrives in Big Sur. In its early days, the therapies practiced at Esalen were considered radical. More recently Esalen has been referred to as a "polished academy," regarded as a good neighbor by the tourist-oriented commercial establishments in the area.

Growth and development in Monterey County and throughout the state, and a disproportionate increase in an aging population (retirees), will undoubtedly affect the region with a rise in traffic levels. Given the constraints and the community's protective spirit, however, the area's basic economy based in tourism, recreation and ranching is not expected to change appreciably.

3.2 Intrinsic Qualities

The National Scenic Byways Program defines "intrinsic qualities" as highway corridor features that are unique, irreplaceable, distinctly characteristic of an area, or the most outstanding examples of their kind. There are six categories of intrinsic qualities: archeological, cultural, historic, natural, recreational, and scenic.

In 1996 All-American Road designation recognized four categories upon which the nomination was based: scenic, natural, recreational and historic. It is worth noting,

[8] Monterey County census tract 115

however, that valuable archeological and cultural resources are also found here. For purposes of the Byways Program, recognized intrinsic qualities are those that travelers are able to see or have direct contact with physical evidence. As such, although the quality of archaeological resources is high, a byway would not be recognized for this without tangible evidence to the traveler of its presence.

The Big Sur Coast Highway Management Plan seeks to preserve, protect and, where possible, restore all of the area's important and highly valued qualities while ensuring the continued safe and efficient operation of the highway. Along the Big Sur coast, more than four qualities are acknowledged as integral aspects of the corridor experience. An important component of the CHMP is the detailed inventory, research and evaluation of resources in all six categories of intrinsic qualities identified in the Scenic Byways Program.

What follows is an overview of each inventory component, each documented in individual reports with relevant data captured in a GIS database. The descriptions of features and resources along the corridor are presented from the perspective of the northbound traveler. This convention follows the established postmile numbering system of the Department of Transportation, where miles increase in a northbound direction[9]. However, based on traffic volumes and anecdotal evidence, the predominant direction of travel is north-to-south.

3.1.6 Scenic Qualities

Scenic quality is the heightened visual experience derived from the view of natural and man-made elements of the visual environment of the scenic byway corridor.

The Big Sur Coast is among the most scenic areas in the world. Its natural beauty and visual dimensions have inspired artists of all kinds since the early days of California history. Completion of the San Simeon-Carmel Highway in 1937 allowed people a first-hand experience of the awe-inspiring views along the corridor.

Figure 15: This striking view looking south near Julia Pfeiffer Burns State Park highlights several national treasures: the waters of the Monterey Bay National Marine Sanctuary, the exposed offshore rock pinnacles of the California Coastal National Monument and views toward the Ventana Wilderness Area.

[9] Postmile 0.0 on a State Highway is set at the southern limit of a north/south route and the western limit an east/west route. The postmile is reset to 0.0 whenever it crosses into another county. For example, the beginning limits of the CHMP corridor at San Carpoforo Creek (SLO-1-71.4); when the highway enters Monterey County about 3-miles to the north, the postmiles are reset (MON-1-0.0).

On the broadest level, the corridor is broken into three sections: south, central and north. To more fully describe visual quality, the corridor was analyzed according to the following elements: viewsheds, landscape units, major view locations, and intrinsic scenic features[10].

> **Viewsheds** denote the visual "envelope" that a person can see from a specific point and are generally quite large, encompass many different visual elements and landscapes, and are often defined by topographic features.
>
> **Landscape Units** are distinct segments of the project corridor that exhibit a consistent or cohesive visual character primarily based on vegetation, topographic and man-made elements.
>
> **View Locations** are pull-outs and vista points along Highway 1 that are clearly evident to the traveler as providing a place to safely stop and experience a unique or long-range view of the coast.
>
> **Intrinsic Scenic Features** are features visible from the Highway that define the visual experience and character of this portion of the Central California Coast. Intrinsic features are either unique or vivid (or both), and, therefore, memorable.

The experience of travelling the corridor is felt primarily through a combined effect of scenic elements viewed from the highway, which create a lasting impression. Therefore, the inventory of scenic qualities focused on those elements that are clearly visible and evident from the perspective of the highway traveler. The analysis also characterizes features that detract from overall visual quality.

South Coast

The southern Big Sur Coast presents a consistently natural and rugged scenic quality. There is very little evidence of residential development and commercial development is focused on the businesses at Lucia and Gorda. Individual view locations are few but more formalized in relation to the northern portion of the corridor. Intrinsic scenic features are natural phenomena as Square Black Rock offshore, the promontory at Cape San Martin, and the steep canyon at Redwood Gulch.

Evidence of landsliding is prominent here and is most visible near the area of Rain Rocks, between Limekiln Creek and Lucia, where recent construction activity is apparent. Along this stretch of the coast detractors from visual quality include non-native pampas grass invasion, earthen berms and material stockpiles, and metal guardrails. Clearly, repair activities to keep the highway open are evident along this portion of coast and influence the overall visual quality within this portion of the corridor. At most view locations on this part of the coast, large berms of landslide debris, rocks and soil detract from the larger visual experience.

Big Sur Valley

The Big Sur Valley provides a very different visual experience from the rest of Highway 1. Views are more intimate and rustic in character. The landscape is more closed-in because of the dense forests, buildings and steep hillsides that line the roadway. Just

[10] Corridor Intrinsic Qualities Inventory: Scenic Qualities (February 2002). Public Affairs Management

past the Nepenthe Restaurant, the highway drops into the forested Big Sur Valley out of view of the ocean. To the east is the Ventana Wilderness with its steep, rugged and rural terrain. The Big Sur River meanders through this valley as it flows to the Pacific Ocean at Andrew Molera State Park at the northern extent of the valley.

As the highway travels north it transitions from the forested valley of the Big Sur River to a broad coastal plain covered with chaparral and grasses. This portion of the coast has few view locations, but a wealth of intrinsic features such as the Captain Cooper Redwoods, the rustic river resorts, Post Homestead, and Pfeiffer-Big Sur meadow. The primary elements that detract from this rustic aesthetic are power poles, signage and parking lots.

North Coast

The northern Big Sur Coast is more heavily traveled owing to its proximity to the communities on the Monterey Peninsula, themselves important travel destinations. This portion of the coast presents the most dramatic changes in scenic quality. Traveling south there is a progression from the urbanized areas near Carmel Valley to the agricultural scene at the Carmel River; beyond the river, views of Monastery beach and Pt. Lobos State Reserve are prominent before entering the busy residential community of the Carmel Highlands. South of Malpaso Creek, residential development drops off and the dramatic coastal views open up, most prominently near Garrapata State Park.

Viewing opportunities are numerous along this portion of the highway. Many of the pullouts are paved and easily identified, such as at Hurricane Point and Little Sur River; others with dramatic views remain unpaved and are less obvious to the traveler, such as Granite Canyon and Garrapata Creek. Most of the view locations are intact with few detracting elements. While nearshore scenes unmistakably dominate the memorable views from the highway, individual intrinsic scenic features here include man-made elements such as the Carmelite Monastery, the cabin at Notley's Landing, and Bixby Creek Bridge.

The pressures of development are more evident along this portion of the coast. Overhead utility lines, residential development, road cuts and access roads to private property all detract from the overall visual quality. An unfortunate result of screening views of development from the highway in some cases also blocks more distant views of the landscape and the ocean. The major threat to the scenic quality along this portion of the highway is from continued residential development.

3.1.7 Natural Environment

Natural quality applies to those features of the visual environment that are in a relatively undisturbed state.

Under the Byways program, consideration for natural quality, in addition to scenic quality, means that the resources must be representative, unique, irreplaceable or distinctly characteristic of the area. The natural resources must be visible from the roadway and be relatively undisturbed by human activity.

A characterization of the natural environment was made with the primary purpose to identify and map areas in direct proximity to the highway. The inventory characterizes a

400-foot wide corridor using photo interpretation and field observations focused on the immediate 80-feet, roughly coinciding with the highway right-of-way.[11]

Surveys sought to primarily characterize the terrestrial environment for vegetation communities, potential jurisdictional waters (wetlands and water courses), potential wildlife corridors, potentially suitable habitat for special-status species, and the degree of exotic plant invasion. The survey also estimated identified the presence of seacliff buckwheat, the host plant for Smith's blue butterfly, a federally listed endangered species.

Biotic communities include groupings of plant and animal species that live within similar conditions including geology and soils, climate, exposure and moisture. Biotic communities found along the Big Sur coast range from Northern coastal bluff scrub (containing low-growing shrubs on rocky, poorly developed soils) to Riverine (lining the banks of rivers and streams, providing resources for a large assemblage of wildlife species.) The primary biotic communities in the corridor are:

- California bay forest
- Central coast cottonwood-sycamore riparian forest
- Central coast riparian scrub
- Central coastal scrub
- Central dune scrub
- Coast live oak forest
- Coastal sage-chaparral scrub
- Coastal terrace prairie
- Intertidal
- Monterey pine forest
- Non-native grassland
- Northern coastal bluff scrub
- Northern foredune
- Riverine
- Ruderal/disturbed
- Windrow

Potential jurisdictional features was the term used to refer to those areas that would likely fall under the purview of the US Army Corps of Engineers or the California Department of Fish & Game. Indicators include presence of water, channel incision, and presence of hydrophytic (water loving) vegetation. Surveys conducted in the summer of 2000 noted over 350 of these features, which included small ephemeral drainages, streams and creeks, rivers, seeps and springs, ponds and wetlands.

The following information was used to assess the potential for wildlife corridors along the highway: drainages lined with substantial vegetative cover, presence of possible game trails, and roadkill "hot spots"[12]. Each aquatic feature within the corridor study area was evaluated for its potential to support anadromous fish. Riparian corridors represented the majority of potential wildlife corridors identified during the field review.

Potentially suitable habitat for special-status species is defined as areas where the species is known or has the potential to exist based on range and presence of habitat or important elements. A number of special-status species have the potential to occur within the corridor; these include but are not limited to, Smith's blue butterfly, steelhead, California red-legged frog, two-striped garter snake, California condor, Southern

[11] Corridor Intrinsic Qualities Inventory: Natural Qualities (December 2001), Parsons Transportation Group

[12] Dr. John Smiley, reserve manager for the U.C. Big Creek Ecological Reserve, conducted a volunteer survey for roadkill to help generate data that could be used to show patterns or trends of animal crossings along the highway. Complete results of this week are available at http://www.redshift.com/~bigcreek/roads/roadkill_survey/index.html

California rufous-crowned sparrow, Little Sur manzanita, Hutchinson's larkspur and Monterey pine.

Habitat for the Smith's blue butterfly is prevalent along much of the highway corridor. The principal host plant for this federally listed species, Seacliff buckwheat, is found among several of the native plant communities. The relative densities of buckwheat were estimated during the surveys. The buckwheat is commonly associated with central coast scrub and coastal sage chaparral plant communities and is found growing on road cuts and ruderal/disturbed areas.

Among the biggest threats to the natural environment within the corridor is the spread of exotic plant species, since the most invasive of these disrupt natural plant communities and destroy habitats. Exotic species identified during the survey included: pampas grass, kikuyu grass, ice plant, sticky eupatorium, French broom, Italian thistle, Cape ivy, mustard and fennel. Overall, the degree of exotic plant invasion is concentrated along the highway; beyond that, invasion is evident at disturbed and developed areas.

Smith's blue butterfly on buckwheat flower (photo Dave Hacker).

The federally endangered Smith's blue butterfly depends on seacliff buckwheat for its entire lifecycle. This plant is found among several coastal scrub plant communities and is widespread throughout the corridor. Highway management activities must be undertaken with care to avoid impacts to the buttterfly and its habitat.

Given the proximity to a sensitive marine environment directly down slope of the highway, general information about shoreline resources was also collected. However, only a glimpse of the shoreline habitats is described so far. Several offshore areas have been subject of in-depth review related to individual landslide sites[13]. The Monterey Bay National Marine Sanctuary in cooperation with The Department will be developing a more thorough characterization of the important shoreline habitats in the near future.

3.1.8 Recreational Features & Qualities

Recreational quality involves outdoor recreational activities directly associated with and dependent upon the natural and cultural elements of the corridor's landscape.

Topography constrains recreational opportunities, which are concentrated along or at least depend directly on highway access. Landforms conducive to recreational uses are rare commodities: sandy beaches, broad coastal terraces, rolling open terrain and gentle shoreline slopes. Even access for touring visitors is limited by the narrow, winding roadway and lack of public side roads off the highway. The result is a dispersed arrangement of recreational areas that provide unique, site-specific recreational opportunities along the corridor.

[13] See bibliography of marine studies between 1985-2001 for evaluating the effects of landslide activities to offshore and nearshore habitats.

Recreation activities generally fall within one of three themes: touring; educational and contemplative; active sports. The primary recreational use of the highway is for sightseeing or destination travel, either by motor vehicle or—to a lesser degree, but highly acclaimed—by bicycle. In addition to touring, other popular recreation activities include educational and contemplative pursuits and destinations such as retreats, nature preserves, and individual explorations. The corridor also provides exciting and challenging opportunities for active sports such as water sports, hiking, and bicycling.

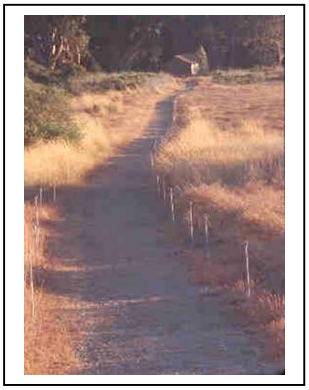


Figure 16: Hiking trail leading into a Eucalyptus grove at Andrew Molera State Park.

Touring

While touring the coast, the experience is ever changing, from the remote and wild southern and central sections to the gradually more gentle and civilized northern section. The coastal landscape offers a rich visual display of form and character from precipitous mountains and ravines to forested river valleys, coastal plains and beaches. Nestled into this landscape are numerous formal and informal touring attractions, from vista points, to public lands and private resorts. Although complete service facilities are limited, traveling this section of highway is a reasonable day tour by vehicle.

Touring the coast is best accommodated by traveling from north to south, as this allows the best windshield survey of the setting and direct and safe access to most of the vista and access points along the shoreline side of the highway.

Touring highlights include the visitor developments with lodging near the small settlements along the corridor. Camping is available throughout the central and southern coast areas and numerous private campgrounds in the Big Sur Valley area.

Educational and Contemplative

Educational and contemplative opportunities are abundant along the route, although formal, publicly accessible facilities are rare. Each cove, bluff, trail and view to the water offers a unique place to investigate the richness of Big Sur. The ocean is a source of inspiration and offers many opportunities for marine study, inquiry and observation. In the north, the Point Lobos Reserve is considered the crown jewel, providing extensive preserved marine and upland ecosystems. Areas dedicated to the study of natural systems, such as the Southern Redwood Botanical Area and Big Creek Reserve, provide restricted use areas for scientists and students.

Two prominent formal educational and contemplative facilities are the Esalen Institute and the New Camaldoli Hermitage. Esalen provides a range of programs and sessions in alternative education, transformation practices, and restorative experiences along with

soothing hot springs. Lucia's New Camaldoli Hermitage, run by a group of Camaldolese Monks, offers retreats to the public by reservation and a small shop for tourists.

Active Sports
The rugged character of the landscape has influenced and limited the growth of active sport recreation within the region. Yet there are numerous active recreation opportunities for novices and seasoned enthusiasts alike. In the southern and central sections, the Los Padres National Forest encompasses the majority of the inland property along the coast, and the coastline itself from just south of Lucia to the San Luis Obispo County line. The proximity of the National Forest to the coast south of Lucia provides for a rich assortment of shoreline and inland trails and public use recreational features, such as beaches for surfing, diving, and fishing.

North of Lucia, where the boundary of the Los Padres Forest recedes from the coastline and the highway, private land ownership restricts access to areas off the highway. As the highway travels north, there are several large tracts of state lands, either Reserves or Parks, which provide shoreline access for active sports pursuits.

Trails are most common in the south and central sections and are predominantly restricted to hikers and equestrians. Along the length of the coast, a vision to provide a continuous trail link is being explored for the California Coastal Trail (CCT). To complete the trail route, several sections of the CCT will necessarily coincide with sections of the highway as a connector between actual trail segments. Inland from the highway, a large portion of the Los Padres National Forest is designated wilderness (Ventana or Silver Peak), which precludes the use of any form of mechanized travel, including bicycling and hang gliding. As a result, mountain biking trails are limited throughout the coast and cyclists typically follow graded dirt roads, the Nacimiento-Fergusson Road or the highway.

Along the length of the highway, serious and enthusiastic road cyclists make good use of this section of the Pacific Coast Bike Route. Both day trips and overnight tours are common, some as part of organized supported rides and other independent riders alone or in small groups.

3.1.9 Historic Resources & Qualities

Historic quality encompasses legacies of the past that are distinctly associated with physical elements of the landscape, whether natural or man-made, that are of such historic significance that they educate the viewer and stir an appreciation of the past.

To provide an understanding of the past, two inventories were conducted: one provides an overview of the history of the region and of historic features that are visible from the highway; the other relates to the features of the Carmel-San Simeon Highway Historic District. Furthermore, an historical account of road closures was produced that sheds light on the patterns of travel disruption over the years.

Historic Qualities
The historic context for this inventory focuses on four major historic themes that exemplify the resources inventoried. These themes, or patterns of events, provide an understanding as to how and why buildings and structures were constructed during various historic periods. Historic preservation professionals have recognized this

thematic approach to the history of a region as an effective means of establishing a framework for understanding the potential significance of historic resources.

- Pioneer (pre-highway) settlement
- Development of tourist-oriented facilities after the highway was completed
- Occupation of the area by notable individuals
- Development of public sector infrastructure

A fifth category ("Other") was necessary to include those events and historic properties not reflected in any of the four major themes.

Pioneer Settlement The pioneer era in Big Sur began during California's Mexican Period (1821-1846) and lasted for over a century, culminating with the completion of the Carmel-San Simeon highway in 1937. The settlers who ventured into this region, with family names such as Pfeiffer, Bixby, Post, Harlan, and Dani, made a living through a variety of activities including subsistence agriculture, stock raising, mining, timber harvesting, and road-building.

Tourism Industries By the time the Carmel-San Simeon highway was completed, the pioneer era in Big Sur had come to an end. In its place, a new economy developed that was centered on tourism. Compared to the rugged roads that had previously served the Big Sur, the new highway provided easy access into and out of the region. The early families, which before had lived in virtual isolation, could now move freely up and down the coast. Perhaps more important to the economy of Big Sur was the fact that tourists could easily visit and experience first hand the region's spectacular beauty.

Notable Individuals Throughout much of the 20th century, Big Sur attracted notable individuals who established permanent or part-time residences there. Three residences along the highway stand out as particularly notable examples of this theme: the D.L. James House, designed in 1918 by renowned architect Charles S. Greene; the "Wild Bird" house, designed in 1958 by Nathaniel Owings; and the ranch of Linus Pauling, an important scientist and political figure, near Gorda.

Public Sector Although historic and current residents of the Big Sur have celebrated their self-sufficiency, government has long played an important role in the history of the region. There are numerous public sector historic properties along Highway 1 that were built by local, state, or federal agencies. Probably the most significant federal sector property in the area is the Point Sur Lighthouse, one of the most visible and striking of all historic resources in the vicinity. Other public sector resources include the U.S. Forest Service ranger station at Salmon Creek, the maintenance station at Willow Springs originally built for the California Division of Highways (now Caltrans), and the gatehouses at the Point Lobos State Reserve. All of these resources were established in the 1930s, although some of the buildings in the complexes are of more recent vintage.

Figure17: The historic Point Sur lighthouse represents the most significant federal sector property in the corridor area.

One of the most important public sector resources relates to the Highway 1 corridor itself. Following its completion in 1937, the highway forever changed the character of Big Sur from an isolated frontier to a popular and easily accessible tourist destination. A collection of features dating to its original construction, notably the stone masonry and concrete arch bridges, has been determined eligible for listing in the National Register (see the discussion below on the Carmel-San Simeon Highway Historic District).

Other History & Culture

The inclusion of an "other" category in this summary history of Big Sur is important, because humans and human events do not always fit into neat categories. This category includes resources that clearly express an aspect of Big Sur history and culture, but cut across the four major themes. For example, Big Sur boasts two notable institutions devoted to those seeking peace and contemplation: the Carmelite Monastery, built in the Medieval Italian architectural style in 1931; and the Esalen Institute, an alternative learning center established in the 1960s. The Big Sur Grange Hall, built in 1949, commemorates the long pioneer era of the region and also serves as a public gathering place. Another property of community-wide interest is the Henry Miller Memorial Library, established in 1981 by Emil White, secretary and friend to author Henry Miller.

History of Road Closures Over a long period of time (from the mid-1930s to the present), road closures have been one of the few constants of life in Big Sur. The population and economy of the area have always been in flux, as is true of all other parts of California. Road closures at any given point in time have affected the people and businesses that were in the area. The numbers of resorts and permanent residents have grown over the years, and the value of the investment in those homes and businesses has grown at a much faster rate. To that extent, the impact of the closures has grown more severe in recent years, as more expensive homes and resorts have been built and used on a more year-round basis. On the other hand, technological and organizational improvements over the years, coupled with the community's ability to galvanize in the face of adversity, have improved Big Sur's ability to deal with such events. Nonetheless, the historic record suggests that closures will continue into the future on a reasonably predictable basis, with major closures coming in clusters that coincide with wet weather patterns and summertime fire events. If the level of investment and use at Big Sur continues to grow, the severity of the impact of closures will also increase correspondingly.

Carmel – San Simeon Highway Historic District Pioneer settlers created the predecessor to Highway 1 in the late 1800's. Monterey County assisted in constructing the Coast Road, which provided access from the Monterey Peninsula south into the upper reaches of the Big Sur. The Coast Road was adopted into the county road system for maintenance.

The modern highway is traced to a Monterey area physician by the name Dr. John Roberts, who treated patients along the Big Sur and envisioned a more reliable thoroughfare extending the length of the coast south to San Simeon. In addition to improving transportation for the local settlers, he saw an opportunity to provide a destination route for tourists and to open the area for land sales. The endeavor to build the Carmel-San Simeon Highway received a green light in 1919 when California voters passed a $1.5 million bond for its construction, which got underway in 1922. Faced with unexpected complexity during construction, work on the highway nearly came to a halt over a 4-year period before resuming again. The opening of the Carmel-San Simeon Highway, which ultimately cost $8 million to construct, was commemorated with a gala celebration on June 27, 1937.[14]

Elements dating to the original construction of the highway include the features constructed with stone masonry and seven concrete arch bridges. Collectively, these features comprise the Carmel to San Simeon Highway Historic District, as they are related by geographical proximity, and united historically and aesthetically by their physical development. The State Historic Preservation Office has concurred that the District is eligible for listing in the National Register of Historic Places (NRHP) under Criterion C (design/construction).

The stone masonry parapets, retaining walls, culverts headwalls, and drinking fountains embody the distinctive characteristics of a type (rustic style), period (1920s-1930s), and method of construction (handcrafted). They also possess artistic value as they harmonize with their natural and rugged environment along the Big Sur Coast in a style that was popular in rural areas of the state throughout the Depression.

Over 300 of the stone (or rubble) masonry features have been recorded within the Carmel - San Simeon Highway Historic District. Culvert headwalls are among the most common found throughout the corridor, particularly where the slopes are quite steep (such as along Partington Ridge); retaining walls are also prevalent in these areas. Today, the area along the Partington Coast still exhibits a concentration of these resources; this fact combined with very little evidence of development gives it a special scenic value. The integrity and setting of these features is largely intact, giving the traveler a sense of what it may have been like to travel the highway 70 years ago.

The seven concrete arch bridges (Big Creek, Bixby Creek, Rocky Creek, Garrapata Creek, Granite Canyon, Malpaso Creek, and Wildcat Creek) are best understood as a group unified by a common roadway, a common setting, and a single design principle. These are the Big Sur Arches, which together comprise one of the most beautiful public works projects in the United States. They are perhaps the finest products of the Bridge Department of the California Division of Highways, which, in the opinion of bridge

[14] Pavlik, Robert C., *Historic Resource Evaluation Report – Rock Retaining Walls, Parapets, Culvert Headwalls and Drinking Fountains along the Carmel to San Simeon Highway, San Luis Obispo*. Caltrans District 5, 1996

historian/engineer David Billington, was responsible for "the best series of arch bridges in the United States."

Figure 18: The concrete arch bridges, like this one over Rocky Creek, provide some of the most dramatic and memorable images of the Big Sur Coast

There were originally six water fountains built along the highway. Five of the six are still in existence (Soda Springs, Big Redwood, Willow Creek, Lucia, and Rigdon), although the Big Redwood Fountain (Post Mile 5.55) is now outside present limits of the roadway but is still considered a contributing element to the District. The fountains were constructed in response to the public need for water along remote and arid stretches of state highways, where commercial or other facilities were not available, and to alleviate the public's use of the Highway Department's maintenance yards.

Some of the fountains are simple stone affairs, while the most elaborate and impressive are the Willow Creek (Post Mile 11.95) and the Senator Rigdon Memorial Fountain (Post Mile 26.9). These might have been considered primitive roadside rests, since they have contained picnic tables as well as elaborate stonewalls and benches.

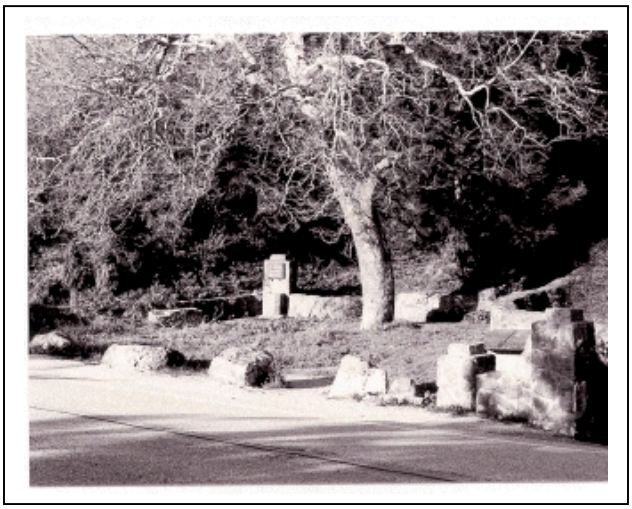


Figure 19: The Senator Elmer Rigdon Memorial fountain is one of the more elaborate drinking fountain sites.

The majority of the Historic District's masonry features consist of the headwalls built for corrugated-metal pipe culverts; these were built because of the ready availability of material and the complementary nature of the headwalls, with other similar structures (namely, walls and fountains) and with their rugged setting. Some have been repaired, reinforced, or protected with large redwood planks, corrugated tin, or concrete.

Five highway markers, identified as square concrete posts with an engraved "C" (California survey monument) were recorded. These markers likely date to the original construction in the1930s.

There are three types of parapets along Highway 1: arcade, a style of multiple arched windows built into the parapet wall; battlement style, a monolithic wall with a crenellated top (vast majority); and a simple monolithic wall with a flat top and no decoration. The walls are uncoursed; that is, the rocks are laid in a random order, not in layers. They are built of local stone of varying sizes and types, and held in place with cement mortar. The parapet is usually built on top of a rubble masonry retaining wall; in a few instances, the retaining wall extends slightly above the level of the roadway, forming a de-facto parapet (usually of the simple monolithic style with flat top). The less common arcade style occurs at the southern end of the route.

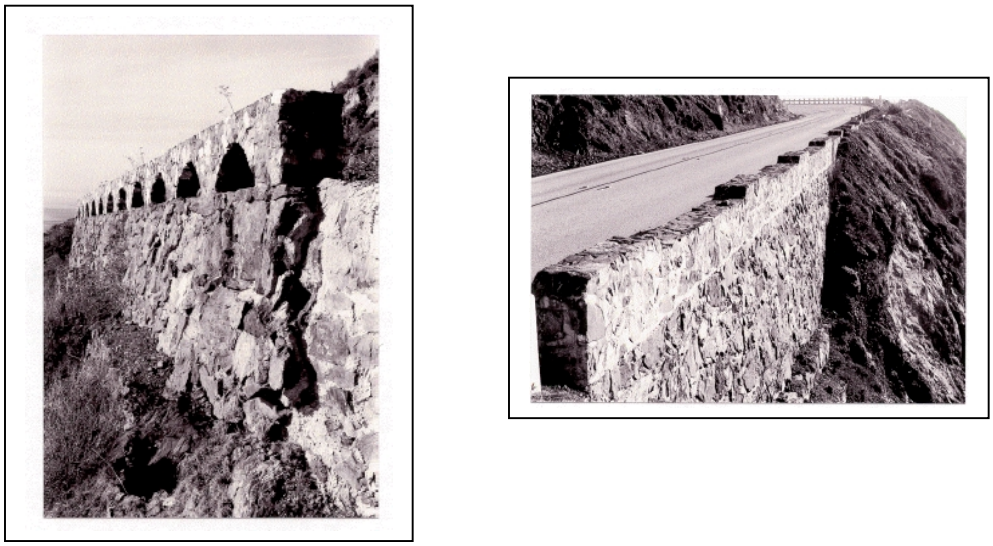


Figure 20: These retaining walls built as part of the original highway construction illustrate the arched window (left) and crenellated parapet wall designs. (Photos: Bob Pavlik)

Due to the rugged nature of the topography, the location of rock retaining walls appears to have been left to the discretion of the resident engineer. On one "As-Built" plan, a notation reads "dry rubble retaining wall to be used as called for on the cross sections and as ordered by the engineer." Each retaining wall was built with a large footing, the width equaling 1/6 of the wall's height. The wall was battered or sloped at a very steep angle and built of the same material as the parapet walls, and in the same manner.

3.1.10 Archeological Qualities

The archeological qualities of the Coast Highway corridor include physical evidence of prehistoric human habitation and activity in the Big Sur area.

Juan Cabrillo was the first European known to traverse the waters off the Central Coast in 1542. Cabrillo's voyage was followed some fifty years later by Sebastian Vizcaino's mapping expedition along the California coast. Spain did not initiate land exploration and colonization of the Central Coast for nearly 170 more years. Even then, when Gaspar de Portola's overland expedition from San Diego encountered the Santa Lucia Mountains looming over San Carpoforo Creek at the south end of today's Coast Highway Corridor, the party turned eastward away from the Big Sur Coast before reaching the Salinas River and returning to the coast.

For over 6000 years before Spain's occupation of California, the Big Sur Coast was home to several groups of Native Americans. The rugged mountains that continue to repel intense development by modern people are much of the reason for the paucity of first-hand accounts of contacts with Native Americans along the Big Sur Coast until well into the 20th Century.

When the Spanish first arrived, the Big Sur Coast was home to three groups of people, speakers of the Salinan, Esselen and Ohlone (or Costanoan) languages. The southernmost group, Salinan language speakers, lived in an area extending from the San Carpoforo Creek area north to the Big Creek drainage and east over the inland mountains and into the Salinas River valley. The Salinan are believed to have numbered around 2,500-3,000 in the late 18th Century.

Speakers of the Esselen language numbered around 1,000 at this time. The Esselen lived immediately north of the Salinan districts. Esselen territories extended north from Big Creek to Post Creek and again, east from the Coast, over the mountains, throughout the watersheds of the Carmel River and the Arroyo Seco and on into the Salinas River Valley. The Esselen group was the most isolated of the three groups at the time of early European occupation of the Monterey Peninsula. The Esselen may have occupied a larger territory to the north before becoming isolated in the mid-coastal area by an influx of Ohlone from the north.

Contact with Europeans was completely lacking for the Esselen people who lived in the most remote part of the coast, far from the settlements near the Monterey Peninsula and the San Antonio and San Luis Obispo Missions. Owing to mission records and accounts of early explorers and ethnographers, more is known about the contact-period Ohlone people than the other two groups. During the Mission era, the Ohlone ranged from Point Sur north to the tip of the San Francisco Peninsula, with some sub-groups occupying the central Salinas Valley. Artifacts, dietary remains, structural remains and burial sites comprise the physical evidence archeologists have considered as they assemble the record of the peoples who lived along the coast in prehistoric times.

3.1.11 Cultural Qualities (Contemporary)

Cultural quality is evidence and expressions of the customs or traditions of a distinct group of people. Cultural features including, but not limited to, crafts, music, dance, ritual, festivals, speech, food, special events, and vernacular architecture are currently practiced.

Capturing the "evidence and expressions of the customs or traditions" of the Big Sur corridor is challenging given the fact that many residents are attracted to the area because of its remoteness and isolation. Also, while the resident population is small, it comprises individuals with a wide range of income levels, interests, beliefs, and traditions.

The dramatic terrain along the Big Sur coast and the large areas of land under public ownership creates a dispersed pattern of development within the buildable areas along the cliffs and within the valleys, with homes scattered along the corridor in isolated pockets. The Big Sur Valley is the primary commercial and social center of the area, although residents of the northern part of the corridor are more closely aligned with the Monterey area. Residents of the more remote and isolated southerly area are less involved in community activities in the Big Sur Valley. People are attracted to the area for a variety of reasons including generational traditions, alternative lifestyles, employment opportunities, seclusion in a beautiful setting, artistic expression, meditative and spiritual enrichment or simply for a reclusive lifestyle.

The tourism industry also affects the cultural traditions and events in the Big Sur area. Many of the commercial businesses along the corridor are oriented to visitors, and many of the events listed in the area are marketed to a wider population to bring additional visitors to the area predominantly during the dry season.

The Big Sur community has a long tradition of volunteerism and community events that comprise contemporary expressions of that tradition. Big Sur residents come together to celebrate social, cultural and charitable events in the limited number of venues in the Big Sur Valley. Since the local community activities occur throughout the year, scheduled activities during the rainy season are more susceptible to cancellation or postponement, depending on weather and road conditions.

CHAPTER 4 ISSUES AND CHALLENGES

From some perspectives, the complexity associated with managing the Highway 1 corridor appears to reveal competing interests. Variable priorities and perspectives held by diverse stakeholders result in differences that can be difficult to resolve. However, through careful consideration, there is a set of common values and interests underlying the differences. Communication and investigation of the range of issues progresses into shared perspectives and a broader understanding of core values. This provides the foundation for problem solving. Exploring the issues and working toward common solutions has become the primary focus of this corridor management effort.

4.1 Defining Events

Seasonal, natural events such as storms, landslides and fires have affected service on the highway to varying degrees ever since its opening in 1937. In the first two decades of highway operation, ranchers and mine operators owned the few tourist facilities in the corridor. Permanent residents were few, tourism decidedly seasonal and traffic light. In those days, perhaps the inconvenience of occasional closures was outweighed by the novelty of the new road.

Figure 21:The corridor has suffered landslide-related closures ever since the highway's opening in 1937.

As the number of permanent residents, tourism and related businesses has grown, combined with factors such as inflated land values and statewide economic trends, the community's ability to withstand sustained closures or lengthy delays for road repair has been stressed. The cyclical pattern of large storm events, commonly referred to as El Niño, has brought this phenomenon into sharp focus.

In the winter of 1982-83, four major slides closed the highway, none more significant than one at Julia Pfeiffer Burns State Park, also known as the McWay landslide, which at the time was the largest landslide ever to have affected the state highway. Although the landslide impacted a stretch of highway only 300 meters long, the volume of material that moved is nearly incomprehensible at 2.3 million cubic yards. The road was closed for over a year to complete repairs, which removed 3.1 million cubic yards of material.

Over the next 15 years, storm damage was limited both in severity and distribution at any one time. The largest event in this period occurred in 1986 when a landslide some

six miles north of the San Luis Obispo-Monterey County line closed the road for 68 days (Redwood Gulch). Then came the El Niño -driven storms in the winter of 1997-98 when a series of record storms in a short period of time resulted in an unprecedented damage.

The 1998 event was by all accounts the most acute in the history of Highway 1 along the Big Sur coast. The distribution, severity and number of damaged locations along the highway led to complete isolation of residents, communities, businesses and schools. In all, 36 individual sites along the highway required major repair. The circumstances were not only serious, but the memory of the yearlong closure and long-term environmental impacts associated with the 1983 McWay landslide gave rise to heightened anxiety in 1998.

The residents and business owners were concerned about the fundamental effects on their livelihood and the potential long-term visual effects from the repairs. Regulatory agencies were concerned about making decisions with little information. The Department was put to the test for re-opening the road as soon as possible. Ultimately, the work kept the highway closed for nearly four months and exceeded $30 million in construction costs. The common factor that caused the greatest challenge was determining the disposition of excess material. Locating and hauling material to suitable sites that could receive material was time consuming and costly.

While efforts had been underway since 1983 to develop a longer-term plan, the 1998 events prompted a greater focus and produced what is now the Big Sur Coast Highway Management Plan. Underlying the effort is a desire to move away from a crisis-driven approach that can result in poor decisions with unintended consequences. The desired outcome is to formulate a common approach that allows well-informed decisions with broader support.

4.2 Exploring the Issues

At the outset of the planning process, a variety of stakeholders were canvassed about their concerns. Identifiable themes emerged from this exercise and enabled the formation of a series of working groups. These groups were charged with deliberating the issues, bringing relevant information into the discussion and making recommendations on proposed solutions or actions.

Stakeholders broadly agree on the value of sustaining a safe and reliable highway. In addition, the Big Sur Coast is guarded by strongly held values for preservation of place. These values are not inherently in conflict. However, when actions to sustain the highway introduce change on the landscape or affect any of the important qualities of the corridor, the potential for conflict between these values arises.

The issues raised during the scoping are organized by general theme and listed as topics. The text that follows describes more fully the points of view that were brought forward in as part of the various working group discussions.

4.2.1 Storm Damage Response & Repair

- Due diligence to prevent highway damage or alleviate a deteriorating condition from becoming an emergency to the extent possible
- Appropriateness of repair solutions for landslides
- Sufficient supply and distribution of disposal sites for landslide debris
- Relationship of natural processes and human-induced change
- Polar approach to landslide deposits, balancing the extremes of "all or nothing" for material allowances seaward of the highway
- Re-vegetation success
- Coordinated emergency response
- Balancing social demands and environmental protection

Different perspectives are evident on the very nature of the instabilities in the corridor. Concern has been expressed that the presence of the highway precipitates landslides or at least aggravates the background conditions. Others readily acknowledge that this landscape is not conducive to maintaining a consistent man-made linear feature; if the original proposal for constructing the highway were being made today, it would not likely meet with approval. Nevertheless, the argument today is not whether or not the highway belongs. The attachment to and dependence on Highway 1 along the Big Sur Coast as an important thoroughfare, primary coastal accessway and integral part of the state highway system does not give the Department of Transportation a choice as to whether or not to continue maintaining the highway. The question to be answered is about how management activities are best undertaken that either avoid or minimize conflicts among equally strong values.

Diligence

Concerns about how instabilities affecting the highway are managed include the notion of not doing enough to prevent damage and being too aggressive in the course of repairing damage. The Department will declare an emergency condition when safe two-way highway travel is impaired or when there is imminent threat to traveler safety or to the integrity of the highway. Concern has been expressed that the Department acts too often under emergency conditions, rather than taking prudent actions ahead of time to alleviate the potential for emergencies.

While year-round maintenance activities alleviate the potential for damage, not every event can be anticipated or averted. The Department initiates capital improvement projects where more attention is required to hinder a progressive failure; depending on the complexity of the situation, and the corresponding time needed to complete the project development and approval process, projects are not always be brought to fruition before a condition deteriorates to the point of becoming an emergency. Even still, The Department has a handful of improvements in this corridor at various stages of consideration at any given point in time.

The Department's ability to proactively address progressive failures is limited in part by the constraints of programming highway funds, which is highly competitive. The types of projects initiated to evaluate landslide activity fall within a category that is generally less competitive than others. However, if safety is at risk or when the condition becomes more urgent, these projects become much more competitive.

Repair Solutions

When an emergency condition does occur and restoration is required, decisions are made quickly and with the best information available. In locations where little is known, more conservative solutions may result. In many cases, the conservative approach may also appear to be overly aggressive. The 1983 repair at the McWay landslide illustrates this; the repair option was to achieve stability with complete removal of the landslide, excavating behind the slide plane to the depth of rock and at a flat enough slope to prevent any local instabilities. The repair achieved both global and local stability above the road. Where more is known prior to a failure, site-specific conditions can better be taken into account for the repair. An example of this approach was the Forest Boundary landslide in 2000. Since a project had been initiated prior to the failure, the subsequent emergency repair benefited from the detailed investigations that were underway. The solution at this location was a sidehill viaduct that resulted in very little excavation or excess material. Although these two landslides are very different in type and character, this example illustrates the value of formally initiating site investigations when a need is identified.

In addition to the benefit of well-timed project initiation and programming, changes in fundamental management practices have occurred in response to multiple factors, including environmental regulations, new technology, economics, and public pressure. The approach to managing Highway 1 has responded to these factors, not the least of which are the constraints imposed by sensitive environment conditions. While an evolution of techniques over time documents an overall reduction of land disturbances directly associated with repairs, a need remains to transfer and dispose of excess landslide debris (Duffy, 2001).

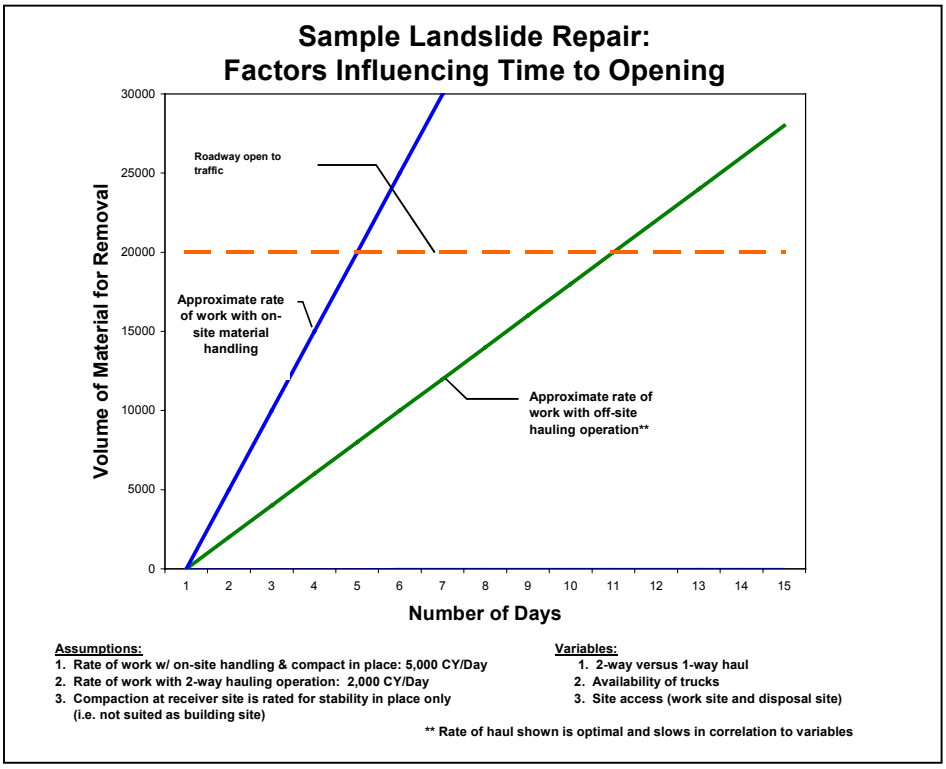


Figure 22: This graph represents a hypothetical project where removal of 20,000 cubic yards of material is necessary to re-open the highway safely to traffic.

Landslide Debris

At the 1983 McWay landslide, excavated material from the repair was pushed downslope and well into the nearshore intertidal area causing long-lasting effects to a unique underwater park. Current practice effectively prohibits casting material west of the highway. The potential for direct and secondary effects of the current practice need to be considered as a whole, including weighing the impacts of long-haul trucking to terrestrial disposal sites and whether this also might be considered a disruption in the flow of natural inputs to the marine system. While the extreme positions are undesirable (everything goes over the side or nothing goes over the side), modifying a change in policy or regulation requires thorough consideration of the potential adverse effects that could result from either approach or some combination.

Toward achieving a better solution, regulators are interested in knowing more about the natural processes, the relative influence of the highway and the dynamics of the shoreline habitats to help determine best practices for managing excess material in this context. While research has been conducted to address these questions a solid course of action to resolve the matter remains elusive.

In 1998, an ad hoc committee formed to find acceptable locations for depositing hundreds of thousands of cubic yards of material. In an effort to locate potential sites in advance, the Department pursued a program to identify and seek approval for terrestrial disposal sites along the Big Sur Coast. This endeavor, now in its fifth year, continues through the approval for up to nine sites, however, none have yet been approved for use. Only commercial landfill sites are presently available to receive large volumes of material.

Coordination and Communication

A key aspect of effective emergency response is efficient coordination. Multiple agencies must be consulted and the community and businesses must be kept informed. This is a challenge with events of any kind. Highway repairs in response to landslides are dynamic; conditions can vary from one day to the next. Uncertainties prevail and communication is critical.

Revegetation

Yet another challenge exists in restoring surface conditions of the land to re-establish native habitats. Factors such as construction staging, finished slope conditions, underlying soil and rock types, erosion and weed control methods and availability of seed all influence the probability for successful site restoration. Limitations associated with making longer-term commitments on shorter duration contracts further complicate the administrative remedies to ensure success of site restoration activities.

4.2.2 Maintenance

- Taking a long-term view
- Preventive maintenance activities for landslides, drainages, erosion control
- Innovation and efficiency to address maintenance problems
- Recycling excess earthen material
- Consistent practices and approach throughout the corridor
- On-site/local availability of equipment and materials
- Minimizing traffic disruption with maintenance activities
- Vegetation management, exotic species control

Stakeholders value the role of diligent and well-advised maintenance that supports the reliability of the highway, and makes it less vulnerable to damage during storm events. There is a desire for assurances that the various aspects of the highway facility, including drainage through and around the highway are properly maintained so as to withstand the periodic strain of seasonal events.

Community interest about certain practices includes the establishment of roadside berms, particularly where ocean views or parking may be affected, and the approach to vegetation management.

Considering the highway weaves through many different properties, both public and private, the Department's role as a good neighbor is also important. Work activities in the Big Sur Valley, for example, need to consider the various businesses such as the inns and resorts. Good communication is as important here as it would be within any neighborhood.

A full range of maintenance duties is employed throughout the year to prevent or minimize damage from winter storms; the activities encompass maintenance of the roadbed, shoulders, and drainage and vegetation management.

Roadbed

The quality of the roadbed surface is important to ensure its ability to properly drain water. A poor quality surface can result in highway flooding, ineffective water flow, draining to the wrong side of the highway or not draining to the proper ditches and culverts. Repairing potholes in the surface helps maintain the quality of a smooth ride, but protects the integrity of the roadbed.

Unpaved Shoulders

Unpaved shoulders provide an important function for the lateral support of the paved roadway and for ensuring effective drainage and stormwater runoff. The support is most critical along areas where the paved portion of the shoulder is narrow or non-existent, where the distribution of the load is diminished. Maintaining a smooth road edge is important not only for the integrity of the pavement but also for the fundamental safety of the traveler. A smooth transition is necessary for vehicle recovery, should a vehicle unintentionally leave the traveled way, and for deliberate movements off the traveled way.

These transitions are also important where they double as opportunities for public access (both formal and informal). Where unpaved shoulders are wide enough for

vehicles to safely pull off the pavement, the uses range from informal turn-outs[15], which simply allows a motorist to take a more leisurely pace, to small pullouts where one can stop to take in a view, to informal trailhead parking for accessing the many trails along the route[16].

Drainage

Ensuring the proper function and integrity of drainage facilities is critical for managing the flow of water in and around the highway. The primary function of good drainage is to eliminate ponding of water on the roadway and to maintain free flow of water around and across the highway.

Regular maintenance of roadside ditches and culvert inlets keeps them clear of debris and major vegetation. Ease of access to these features by maintenance crews is also important should they require attention during a storm. A variety of channels and drains control the flow of water along the highway; these include roadside ditches, groundwater relief drains, surface water conduits, and coastal streams. Maintenance crews are challenged by the sheer number of features on the Big Sur Coast where culverts alone number over 700.

Vegetation Management

Due to the widespread threat of invasive and exotic plants along the coast highway, weed control has been identified as a high priority issue within the corridor[17]. The highway can act as a vector for the spread of invasive plants and seeds. Therefore, precautions are necessary in the management of roadside vegetation. This requires coordination with adjacent property owners, both public and private, to be effective.

Department policy encourages growth of native vegetation along the highway. Vegetation control along the highway is necessary to ensure visibility for safety, fire management, protect pavement surfaces, control noxious weeds, assist in preventing erosion, and preserve views [18]. This activity also includes the removal of dead trees to avoid the potential for these trees to fall onto the road or knock down power lines.

Use of herbicides must be consistent with the Department's commitment to an 80% reduction in herbicide use statewide by the year 2012. Use of herbicides is completely restricted within the Los Padres National Forest, and for years the Department has also prohibited its use along stretches of Highway 1 that pass through these lands.

Storm Response

Continuous patrolling occurs during daylight hours to ensure a roadway free of rocks and debris, clearing downed vegetation and continually monitoring drainage. Maintenance crews shovel out culverts and ditches that are starting to plug or are not draining properly. Storm response also includes using equipment to clean up small slides. This work can be labor intensive, involving an entire maintenance crew for traffic control, equipment operation, spotting (for safety) and truck hauling the material away to temporary locations (such as turnouts). Further cleanup includes repairing potholes,

[15] A turnout allows slower vehicles to pull off the highway and allow following motorists to pass; formal, designated turnouts are paved and signed. When five or more vehicles follow, a slow-moving vehicle is required to use designated turnouts. Unpaved turnouts, while they may provide a similar function, are not formally designated.
[16] *Corridor Intrinsic Qualities: Recreational Qualities Inventory Report*. January 2002
[17] Scenic Conservation Planning Workshop, September 2000.
[18] *Caltrans Maintenance Manual*. 1998

hauling material from turnouts to locations for recycling or permanent disposal, equipment maintenance, removing other downed vegetation and repairs to drainage systems.

Figure 23: Road crew working to remove material from slide within the corridor

Crews

Maintenance crews are limited by their size (human power) and sometimes by the availability of equipment. When response to an event exceeds the ability of the crews to respond, rented equipment may be used or capital program efforts may be initiated.

On the Big Sur Coast support activities are high in relation to production. Support includes activities such as transporting material, equipment and personnel to the job site, preparing and repairing equipment and performing traffic control. These hours can vary greatly from year to year depending on planning, personnel availability, weather, emergencies, equipment and material availability.

Drainage maintenance activities are a high priority in the central Big Sur Coast. Keeping ditches clean and functioning shows a ratio of support to production relatively high at nearly 50%. Accounting for this is the fact that material must be stockpiled in a turnout, and then hauled to a location where it can be processed for reuse or recycling. The processing activity involves running material through a rock screen and process material suitable for work such as shoulder repair. The only time considered as production is that spent while the ditch cleaning operation itself is underway.

4.2.3 Scenic & Habitat Conservation

- Consider aesthetics of standard design features for overall design compatibility; bring innovative design to achieve desired aesthetic
- Reduce and minimize visual clutter, such as utilities and signs
- Establish appropriate roadside practices to protect views and fight the battle against invasive weeds
- Consider aesthetic values of non-native plants, where they do not pose a threat to habitat
- Consider Highway 1 as a “Main Street” for Big Sur communities
- Promote safe, quiet, narrow highway for serenity
- Avoid the accumulation of progressive changes that degrade character
- Avoid and reduce interference with wildlife corridors
- Reduce roadside litter and waste

The overriding theme is conservation. Stakeholders largely value the corridor just as it is, rugged and rural. The landscape speaks for itself. The idea of creating any special design themes meets with resistance; introducing elements of self-consciousness or a sense of control to the corridor is undesirable.

Scenic Qualities and Sense of Place

Standards for highway design are derived from ongoing technical research and documented patterns and trends; they are being updated constantly. Elements of maintaining a highway in modern times can bring changes that seem out of character in a place like Big Sur. At the same time, the Department must ensure the safety of the traveling public in accordance with the best available techniques. Innovation and creativity in design solutions is desired to meet safety criteria while not compromising the scenic integrity and sense of place, which includes its history. Flexibility in application of design criteria is in high demand.

Prominence of utilities and signs (both on and off the highway) contribute to an overall sense of clutter that is compounded by an accumulation of other features, such as roadside markers, driveway entry features and mailboxes. Many of these features, while part of the vernacular, can also bring nuances of urban design, which are out of place. Furthermore, the responses to landsliding have left scars on slopes that are visible for long periods of time as they are difficult to revegetate.

Figure 24: Modern style mailboxes on left contrast with the familiar rural impression from the mailboxes on the right.

Although the Department controls all signs within the right of way, numerous signs are considered unnecessary for the safe and orderly movement of traffic and could be removed. These so-called “non-essential” signs arrive in the corridor at the request of others; while the Department resists excessive signing, accommodations for signs is not uncommon when justification of a need can be established.

Habitat and Species Protection

The vast landscape of the Big Sur Coast is wild and rugged; it supports diverse natural habitats for a wide array of species. In many ways, the highway is an incidental feature, but it can create conflicts, act as a physical barrier or induce changes that threaten the natural qualities. The highway intersects wildlife corridors, where traffic conflicts increase mortality; fences along the right of way can also act as barriers to free movement across the highway. Data collected over several years’ time may be used to identify trends in wildlife crossing patterns and implement strategies that could reduce

the potential for conflicts between highway traffic and wildlife[19]. Invasive weeds, which seem to thrive along the highway corridor, threaten the integrity of native habitats.

Meanwhile, the Pacific Ocean crashes at the bottom of the steep slopes where the nearshore intertidal habitats remain virtually unaffected by human actions. The precarious position of the highway above the ocean however raises concern about the potential impacts to this resource. The sensitivity of the shoreline habitats are not as well understood as some terrestrial habitats.

Balance
There is recognition that the needs of one stakeholder group should not be disproportionate to others. Accommodating needs of visitors should not outweigh the desires and needs of the local community for whom the highway is a central feature of daily life, and vice versa. Protection of one resource should also not outweigh another, unless special protections are warranted, such as the need to sustain endangered species.

4.2.4 Public Access & Recreation

- Balance needs and considerations of visitors and residents
- Protect and enhance opportunities for public viewing with carefully planned and managed vista points, turnouts and pullouts
- Provide for different modes of non-motorized access, achieving separation from the highway where possible
- Manage overall volumes of traffic to retain quiet atmosphere
- Consider opportunities for providing visitor information and education

Figure 25: Pullouts like this one near Hurricane Point are popular places to pull off the highway to take in a view.

As a highway intended to never carry more than two lanes, the idea of Big Sur as a quiet remote place can be threatened as travel demand increases. Given this basic limitation, creative solutions are needed to sustain the conditions that make traveling the highway a pleasure.

Owing to the lack of development along the coast, amenities such as restrooms and trash bins are few and far between; litter and even human waste have a noticeable effect

[19] Smiley, John. Big Sur Coast Highway Volunteer Roadkill Survey. 2003. http://www.redshift.com/~bigcreek/roads/roadkill_survey/index.html

at some vista points and pullouts. Visitors often seek information about the places they visit. Yet, the idea of providing amenities such as bathrooms or facilities for interpretation might conjure images of a guided tour, in contrast to the essential Big Sur Coast experience that is simply to be in a rugged natural environment and enjoy the spectacular views.

The remoteness of the Big Sur Coast brings an element of risk to the traveler with regard to roadside communication. In other areas of the state where cellular phone coverage or emergency callboxes are available, travelers have a means of calling for help when needed. Transit services oriented to the visiting traveler are offered by Monterey-Salinas Transit and operate late spring through early fall. Installation of new communication facilities and even simple amenities associated with bus stops can add to visual clutter.

While the highway is a popular section of the Pacific Coast Bike Route, shoulders are severely limited in many places along the route, requiring cars and bikes to share the road carefully. A vision for a continuous statewide trail, known as the California Coastal Trail, values physical separation from highway traffic, but given the topography, may rely heavily on the established right-of-way as a suitable corridor for other non-motorized travelers (pedestrians and equestrians).

CHAPTER 5 ACTION PLAN

This action plan has been developed to address the full range of issues identified throughout the planning process. The disposition of the various issues takes several forms. Some issues were resolved simply by sharing information about an existing process or by taking a particular action. Some of the more broad-ranging issues are handled in more depth via the one of the three sets of management guidelines. Still others remain unresolved; although information and discussion may have advanced the collective understanding of the issue, more study or deliberation is needed to reach formal agreement.

5.1 Anticipated Benefits of the Action Plan

The Action Plan supports the vision for the Big Sur Coast Highway. The primary benefits of the Action Plan are the following: (1) maintaining the road in a safe operating condition, (2) enhancing the traveler experience, (3) protecting corridor resources, and (4) providing for a balanced, coordinated, action-oriented approach to achieving the corridor vision. Each of these benefits is described below.

Benefit 1: Maintaining a Reliable & Safe Highway
Highway 1 along the Big Sur Coast is a key transportation corridor for access to residences and businesses along the route and destination communities to the north and south. Since its completion in 1937, the highway has also provided the means for countless numbers of people to enjoy this spectacular stretch of coastline. Because the highway is isolated and subject to landslides and related damage, maintenance of the roadway has always been difficult and labor intensive.

The Action Plan presents strategies and actions that address key issues related to highway repair, maintenance and operations, including:

- Managing for landslides
- Maintaining the integrity of the highway
- Providing timely information about road conditions
- Managing roadsides consistent with aesthetic and habitat values

Benefit 2: Supporting & Enhancing the Travel Experience
This stretch of highway is a national treasure. The state and national designations recognize that the corridor's natural scenery and rural setting should be preserved and enhanced for the enjoyment and pleasure for generations to come.

Stakeholders representing various interests have identified common threats to the overall experience. This Action Plan includes strategies and actions that address the essential components of corridor enjoyment:

- Finding out what traveling the corridor entails in advance of commitment to drive (distance, travel time, travel speed, availability of services)
- Being in a beautiful out-of-the-way place
- Having options for reaching the corridor and getting around
- Pulling off the road along the way
- Making connections to other activities along the corridor

Benefit 3: Preserving Corridor Resources

The Big Sur Coast Highway is rich with scenic, natural, historic, and cultural resources. Resource protection is an important responsibility in the course of providing for mobility and a safe and enjoyable travel experience. Aspects of preservation include environmentally sensitive practices as well as finding opportunities to restore features that may be in need of special attention.

Strategies that address key issues related to preserving corridor resources include:

- Environmental Stewardship
- Regulatory Compliance

Benefit 4: Providing for a Balanced, Coordinated, Action-Oriented Approach

The many qualities of the Big Sur Coast inspire diverse demands from stakeholders. Some stakeholders' objectives may appear, at least on the surface, to be at odds with others. The Coast Highway Management Plan has been developed through a process that considers the full range of stakeholder values and objectives and seeks balance.

Stakeholders include persons who live and work in the corridor, those who visit, those responsible for operating public facilities, those with special interests and those who manage resources held in the public trust. Safe access and mobility is a common thread. Beyond that, interests may diverge.

As a practical matter, this set of actions aims to manage human activity in ways that preserve and protect natural resources; in other words, to tread lightly. For example, strategies call for providing safety and directional signage that is sufficiently visible to do its job, but minimally intrusive, blending in harmony with its surroundings.

Balancing values means recognizing that advocates of other values have valid points of view. Each of the working groups developed a set of guiding principles that have been carried into the management strategies and actions. The plan's implementation will emphasize balance.

5.2 Management Strategies

This section describes the recommended management strategies for the Big Sur Coast Highway Corridor. A management strategy is a plan of action for attaining a desired end. The strategies presented below have been grouped into four strategic management areas, each of which generally corresponds with an element of the corridor vision and the purview of one of the technical working groups, as indicated below:

Strategic Management Area	Working Group
A. Managing for Landslides	Storm Damage Response & Repair
B. Highway Features & Function	Maintenance Practices
C. The Traveler Experience	Public Access and Recreation
D. Environmental Stewardship	Scenic and Habitat Conservation

The core value and guiding principles established by the pertinent working group head each strategic management area. Each strategic management area includes strategies that, in turn, are supported by actions. The proposed primary responsible party and a

timeframe goal have been identified for each action. An action may also have additional implementation requirements such as funding and/or other resources. Timeframe goals are denoted as follows:

TIMEFRAME	DEFINITION
Ongoing - (O)	Reflects current practice that may be strengthened
Immediate - (I)	A proposed practice that may be initiated with within 12 months; may require a change in business practice, but no additional funding, resources or authorization required
Short-range - (S)	A proposed practice or action to be initiated within 1-2 years; may require additional resources, coordination and approvals
Long-range - (L)	An action to be initiated or accomplished within 3-6 years, involves the potential for a greater investment of resources and coordination; may require data gathering and contingent decision-making

Note: Any items leading to a change in business practice, additional resources or funding will be subject to the availability of funds. For Caltrans as well as other responsible parties, budgetary constraints must be carefully considered. The Department's budget, as for other state agencies, is subject to actions of the California State Legislature; likewise federal agency budgets are subject to Congressional authority.

The purview of the Implementation Working Group did not correspond with any of the strategic management areas presented in the Action Plan below. Implementation will entail its own structure, timing and funding. Oversight responsibilities for implementation are expected to be coordinated through a formalized collaboration of stakeholders, as an evolution of the CHMP Steering Committee. Implementation is addressed in detail in Chapter 6.

Strategic Management Area A: MANAGING FOR LANDSLIDES

Core Value: Efficient and timely restoration of safe, reliable, continuous two-way travel, in a manner responsible to the environment, the community and the public.

Guiding Principles
1. Respect travelers' needs for timely and accurate information on highway conditions. 2. Act immediately and responsibly to protect or restore highway access. 3. Promote interagency solutions to prevent, anticipate and respond to disruptions caused by storm events. 4. Pursue solutions that avoid or minimize overall adverse environmental impacts and respect natural processes.

The hierarchy for managing emergencies related to highway operations is: (1) prevention, (2) anticipation and (3) response. The following outlines the recommendations in each case and presumes that no level of prevention can eliminate the potential for landslides to impact the highway. Each of the three components is equally important for highway management.

The *Guidelines for Landslide Management and Storm Damage Response* provide greater depth and background for the strategies and actions identified below:

Strategy A-1: Prevention

The prevention strategy entails methodical and prudent advance actions to eliminate or alleviate the potential effects of landslide-related risks. Given the degree to which geologic and hydrologic processes continue to shape the coastal landscape, a creative damage prevention program will incorporate both monitoring for changes and pre-emptive actions. In addition, highway design and repair procedures will include preventive approaches to minimize future highway disruptions and environmental impacts.

Monitoring & Managing Instabilities

A-1.1 Provide information about monitoring activities and progress of proposed improvements; seek input regarding methods and approaches for options that promote a reliable degree of highway stability and limits overall footprint. (Caltrans, Ongoing)

A-1.2 Scope and develop pre-emptive projects (identified through monitoring activity with stakeholder involvement including a full range of alternatives (Caltrans, Ongoing)

A-1.3 Establish a technical working group and provide an annual review of pre-emptive project development efforts, including discussion of priorities. (Caltrans, Short-term).

Drainageway Management

A-1.4 Maintain corridor culvert inventory with regular inspections and identification of those culverts needing remedial work and/or replacement. (Caltrans, Ongoing)

A-1.5 Cooperate with public and private landowners to manage debris and minimize culvert clogging. (Caltrans, Short-term)

A-1.6 Maintain flow lines in a manner that (a) limits disturbance to the minimum area necessary to re-establish essential function; (b) avoids secondary adverse consequences, such as downstream erosion and sedimentation and introduction or spread of invasive vegetation; (c) conforms to best practices under the Storm Water Pollution Prevention Program[20]; and (d) complies with appropriate regulations for any protected resource or species known to occur. (Caltrans, Ongoing)

A-1.7 Prioritize culvert repair needs and develop projects to address deficiencies identified in culvert inventory. (Caltrans, Ongoing)

A-1.8 Consider workforce partnerships for maintaining culvert drainages sufficiently free of debris to avoid clogging. (Caltrans, Short-term)

A-1.9 Compile and maintain a candidate list of drainages that may be better served by a bridge rather than a culvert, based on an evaluation of multiple criteria, including potential for debris flows and habitat values. Coordinate with appropriate stakeholders to obtain input for candidate list. (Caltrans, Long-term)

A-1.10 When replacement of facilities is warranted, incorporate multiple functions and values (hydraulic and debris load capacity, wildlife corridors, habitat functions and trails for people) in determining size and type of facility. (Caltrans, Immediate)

Pre-Emptive Projects

A-1.11 Perform in-depth landslide characterization on a priority set of locations where the highway is or could be affected by continuing movements; evaluate conditions contributing to instabilities and provide recommendations for maintenance or capital investments. (Caltrans, Short-term)

A-1.12 Compile and maintain a candidate list of protective betterment projects. (Caltrans, Ongoing)

20 In accordance with the statewide permit under the National Pollutant Discharge Elimination System issued by the State Water Quality Control.

A-1.13 Share candidate list and seek input from stakeholders. (Caltrans, Immediate)

A-1.14 Explore opportunities in programming to seek funding partners and receive priority for protective betterment type projects in the corridor (Caltrans, Short-term)

Site Restoration

A-1.15 Manage sites to effectively control erosion and promote succession of natural habitats. (Caltrans, Ongoing)

Applied Research and Investment in Technology

A-1.16 Invest in technological research and innovation in search of equipment and techniques to limit construction-related disturbances in both area and volume. (Caltrans, Ongoing)

A-1.17 Initiate pilot projects to test specific techniques for broader application, as appropriate. (Caltrans, Ongoing)

A-1.18 Maintain highly skilled geotechnical engineering expertise for advising on state-of-the-art repair decisions (including technology and equipment). (Caltrans, Ongoing)

A-1.19 Pursue and invest in continuing research and analysis to advance the availability of appropriate preventive techniques. (Caltrans, Ongoing)

Strategy A-2: Anticipation (Preparation)

Anticipation strategies encourage community preparedness, promote collaboration for solutions ahead of the need, and outline responsibilities for interagency coordination during an event.

Community Preparedness

A-2.1 Develop and maintain emergency plans for a variety of situations, e.g., incident response plans specific to certain incidents and coordinated emergency response plans specific to certain geographic threat areas. (Monterey County Office of Emergency Services, Ongoing)

A-2.2 Provide updated information on emergency preparedness to the communities. (Monterey County Office of Emergency Services, Ongoing)

Interagency Coordination

A-2.3 Review Big Sur Coordinated Emergency Response Plan on an annual basis and update emergency contact information as needed. (Caltrans and the Monterey County Office of Emergency Services, Ongoing)

A-2.4 Maintain updated list of emergency contacts (from the Big Sur Coordinated Emergency Response Plan) and distribute to stakeholders in October of each year and as needed. (Caltrans and the Monterey County Office of Emergency Service, Ongoing)

A-2.5 Conduct annual reviews to ensure that the highway emergency response team is well informed about activities and thresholds that may require authorization from regulatory agencies prior to commencing certain activities; ensure common understanding of distinctions, when applicable, between critical work to stabilize a deteriorating or unsafe condition from repair necessary to restore full service. (Caltrans, Ongoing)

A-2.6 Prepare advance environmental agreements for common and recurring activities. (Caltrans, Short-term)

Handling Excess Material

A-2.7 Follow best practices for material handling that includes overall reduction, recycling and beneficial re-use of material. (Caltrans, Ongoing)

A-2.8 Identify, evaluate and seek approval for terrestrial sites available to receive excess material (disposal). (Caltrans, Ongoing)

A-2.9 Advance the development of best practices that are most compatible with natural system processes through comprehensive environmental analysis. (Caltrans, Long-term)

Working in Environmentally Sensitive Areas

A-2.10 Employ best practices for working in sensitive habitats areas and areas known to contain sensitive resources. (Caltrans, Ongoing)

Provisions

A-2.11 Conduct annual inventory and procure supplies or make arrangements, as necessary, to ensure ready availability of specialized heavy equipment, communication equipment, fuel and other essential provisions for the Maintenance stations. (Caltrans, Ongoing)

Strategy A-3: Response

The Department of Transportation has the authority and responsibility for maintaining the highway in a safe operating condition. Whenever traveler safety is threatened or compromised or the integrity of the facility is at risk (and thereby public safety), the Department has the authority to determine that an emergency condition exists with regard to the highway.

Interagency Coordination

A-3.1 Implement use of the Interagency Emergency Notification Form (see Appendix) as the primary tool to promote interagency coordination emergency highway repairs. (Caltrans, Ongoing)

Communications

A-3.1 Implement responsibilities consistent with the Monterey County's Big Sur Coordinated Emergency Response Plan. (Caltrans, Ongoing)

A-3.2 Provide accurate and reliable messages to travelers, would-be travelers and the local and regional community for any event-related closure or

delay to include information about specific location, expected duration of delays or closures, destinations/businesses that remain accessible and open, and any unusual circumstances. (See Appendix) (Caltrans, Ongoing)

Construction & Site Restoration

A-3.3 Conduct activities pursuant to best practices. (Caltrans, Ongoing)

Post-Incident Review

A-3.4 Conduct a debriefing with stakeholders to evaluate all aspects of emergency response. (Caltrans, Ongoing)

A-3.5 Conduct a post-incident multi-disciplinary review, including representatives from the scientific community, to evaluate site conditions, discuss actions, management options and make recommendations to Caltrans. (Caltrans, Short-term)

Strategic Management Area B:
HIGHWAY FEATURES & FUNCTION

Core Value: Efficient and timely restoration of safe, reliable, continuous two-way travel, in a manner responsible to the environment, the community and the public.

Guiding Principles
1. Conduct maintenance activities in manner that sustains the sensitive environment along the corridor. 2. Protect the public's investment in the highway with preventive care. 3. Ensure the functional integrity, safety and operation of Highway 1 for the traveling public. 4. Strive continually to apply the best available techniques for diverse maintenance activities.

This management area speaks to managing all aspects of the highway in a manner that is sensitive to its context; i.e., be consistent with the rural character and minimize visibility of human fingerprints on the rugged landscape. This demands innovation and creativity to meet the essential need for a safe and efficient highway that is also sensitivity to its context.

Strategy B-1: Clean Roadsides

The proliferation of visual clutter threatens aspects of the corridor's scenic qualities. By contrast, a cleaner (less cluttered) roadside environment is also safer for the highway traveler.

B-1.1 Practice "net loss" of clutter throughout the corridor where requests for adding features (including signs) within the corridor must demonstrate visual compatibility, and that any residual impacts be offset. (Caltrans, Immediate)

B-1.2 Adopt and implement *Guidelines for Corridor Aesthetics* for the Big Sur Coast to address the broad variety of features associated with the highway and along the corridor that can contribute or detract from overall scenic qualities. (Caltrans, Immediate)

Strategy B-2: Context Sensitive Solutions

Application of standard highway design elements that are associated with freeway and urban settings appear out of place on the Big Sur Coast. Exploring the possibilities with flexibility in highway design is necessary. Furthermore, stakeholder involvement in a collaborative decision-making process is key. The *Guidelines for Corridor Aesthetics* are especially relevant to this subject.

B-2.1 Seek experimental applications for alternative aesthetic design treatments for construction of new features, such as guardrail, or retrofit of existing roadside features, such as paddle markers. (Caltrans, Immediate)

B-2.2 Establish a reliable approach to improve effective stakeholder participation at various stages of decision-making, from non-essential sign requests to alternatives for a capital improvement. (Caltrans, Immediate)

Strategy B-3: Highway Operations and Capacity

Long-range plans and policies all provide that State Route 1 will remain a rural two-lane highway throughout the Big Sur Coast. With demand increasing and capacity limited, optimizing the existing facility is critical so as not to degrade the quality of the experience of traveling the highway. (See also Strategy C-2).

Operations

B-3.1 Review proposals for new development and anticipated traffic impacts on the Coast Highway. (Monterey County and Caltrans, Ongoing)

B-3.2 Limit the number of private roads and recreational access road entrances from the Coast Highway. (Monterey County and Caltrans, Ongoing)

B-3.3 Require new facilities and expansion of existing facilities to provide adequate and safe off-highway parking. (Monterey County, Caltrans, Ongoing)

B-3.4 Optimize highway operations and safety by evaluating need for additional slow moving vehicle turnouts. (Caltrans, Ongoing)

B-3.5 Review roadway deficiencies and implement appropriate corrective measures to improve operational conditions where warranted (e.g. left turn lanes). (Caltrans, Short-term)

B-3.6 Perform an evaluation for unmet transit needs; determine capacity of augmenting bus service to relieve congestion at peak periods. (MST, TAMC, Short-term)

Capacity

B-3.7 Collect and review data on traffic levels (seasonal and average) and travel characteristics (e.g., mode split, trip purpose) every five years. (Caltrans, Immediate)

B-3.8 Distinguish areas of unpaved shoulders and turnouts and promote deliberate decisions on managing roadside uses to avoid unplanned or incremental widening. (Caltrans, Short-term)

Strategic Management Area C:
TRAVELER EXPERIENCE

Core Value: Highway 1 is the primary access to important coastal and recreational resources available to the public. The need to provide access must be balanced with adequate resource protection to ensure appreciation and enjoyment of these resources for generations to come.

Guiding Principles
1. Communicate essential traveler information. 2. Promote a non-motorized network for public access that balances recreational opportunities with use of the highway by motor vehicles and protection of sensitive resources, private properties, and community values 3. Support the recreational value of traveling the Coast Highway 4. Be guided by the capacity of the Big Sur Coast to educate and inspire.

The intent of these strategies is (1) to provide information about traveling and enjoying the Big Sur Coast; (2) to provide opportunities to pull off the highway for various purposes; (3) to manage connections between the highway and neighboring facilities; and (4) to enhance the potential for non-motorized touring.

The four strategies within this category speak to visitor services, recreation, interpretation, and non-motorized transportation.

Strategy C-1: Visitor Services

Visitors desire information about the area, including expected travel conditions, points of interest along the way, and locations of visitor-oriented facilities in the corridor.

Information

C-1.1 Develop trip-planning information regarding the Coast Highway for distribution in Monterey and San Luis Obispo Counties, with information about basic driving conditions, travel time and weather. Distribute to visitor bureaus, State Parks offices, hotels and other points of visitor contact. (Monterey County Convention & Visitors Bureau, Short-term)

C-1.2 Evaluate opportunities to enhance availability of visitor information at both ends of the corridor, Carmel River in the north and San Simeon in the south. (CA Dept of Parks & Recreation, Long-term)

Facilities and Amenities

C-1.3 Evaluate specific needs of travelers, by a variety of means, such as a survey to poll the demand for additional facilities such as central visitor information and public restrooms (include “do nothing” as an option). (Big Sur Chamber of Commerce, Short-term)

C-1.4 Form partnerships to evaluate opportunities and develop criteria for selecting appropriate site(s) and solutions for visitor amenities, such as restroom facilities. (Caltrans, Short-term)

C-1.5 Develop and implement volunteer litter program with alternative recognition program (i.e. without signs). (Caltrans, Short-term)

C-1.6 Identify and evaluate opportunities for any roadside amenities consistent with Americans with Disabilities Act compliance where needed. (CT with DPR and USFS, Short-term)

Strategy C-2: Non-Motorized Transportation and Transit

Non-motorized transportation and transit both have the potential to reduce the demand on Highway 1 for automobile use and to serve recreational purposes as well. In general, walkers and cyclists are pursuing purely recreational interests. Accommodating the California Coastal Trail (CCT) along the corridor is a primary objective of this strategy.

California Coastal Trail

C-2.1 Plan, develop, and construct the California Coastal Trail, providing separation from motor traffic, to the extent feasible. (CA Coastal Conservancy in partnership with CT/DPR and others, Ongoing)

C-2.2 Support the proposed California Coastal Trail that runs parallel to or coincident with the highway by evaluating specific requirements necessary to accommodate it within the right of way and by incorporating appropriate aspects of the system into funded capital improvements. (Caltrans, Immediate)

C-2.3 Identify and prioritize areas of high demand for pedestrian, bicycle and equestrian use; identify specific capital improvements to improve non-motorized modes. (CT/DPR/TAMC, Short-term)

Bicycling

C-2.4 Incorporate consistent 4-foot paved shoulders, as appropriate and feasible, as part of funded capital projects. (Caltrans, Ongoing)

C-2.5 Provide reminders about shared-use of the highway. (Caltrans, Short-term)

Transit

C-2.6 Identify and prioritize opportunities to enhance transit connections for non-motorized travelers along the highway corridor, such as bicyclists and hikers. (MST, Short-term)

Strategy C-3: Recreation

Highway 1 provides direct access to popular viewing areas and trailheads on public lands. Secondary access from Highway 1 leads to beaches, public parks, private campgrounds and other recreation-oriented facilities. This strategy supports the tradition of low impact recreational activities.

Highway Connections

C-3.1 Manage safe access to trailheads with existing parking along the highway while respecting rights and concerns of public and private landowners. (Caltrans with DPR and USFS, Ongoing)

C-3.2 Conduct a feasibility study to evaluate the potential for existing pullouts that provide trailhead access to become formalized as permanent dedicated access. (Caltrans, Short-term)

C-3.3 Evaluate needs and upgrade facilities for ADA compliance, where feasible. (CT in partnership with DPR/USFS, Short-term)

Strategy C-4: Interpretation

Interpretive information is currently available within units of the State Parks and some private facilities as well as in books, pamphlets and audiotapes available for purchase and at libraries and over the Internet. The intent of this strategy is to approach this comprehensively as is necessary to honor the overriding value of the Big Sur experience as discovery and revelation, rather than guided tour.

C-4.1 Consider development of a corridor-wide interpretive program that addresses needs of Caltrans, Los Padres National Forest, the Monterey Bay National Marine Sanctuary, California Coastal National Monument and State Parks and that highlights corridor themes and qualities along its length, while directing people away from sensitive areas and private property. (USFS, Short-term)

C-4.2 Evaluate and select appropriate media for disseminating information with emphasis on finding non-intrusive means, such as self-tours using print or audio material, to provide interpretation without impacting the Big Sur way of life. (USFS, Short-term)

C-4.3 Explore development of Highway Advisory Radio (HAR) as a means to provide interpretative information (and alternatively used to communicate road conditions during periods of construction, congestion, or closure). (Caltrans /DPR, Short-term)

Strategic Management Area D:
ENVIRONMENTAL STEWARDSHIP

Core Value: Preserving, restoring and maintaining the natural beauty and rural character of the corridor.

Guiding Principles
1. Respect diversity, individuality, and character of place. 2. Minimize visibility of human activity. 3. Protect and restore native habitats and corridor natural, scenic and cultural resources. 4. Pursue multi-party solutions to achieve success.

Although Caltrans has no authority or responsibility for areas beyond the highway right-of-way, the CHMP provides a framework for collaboration among other public and private landowners and managers as well as resource agencies. Two primary strategies for this subject are resource protection and environmental streamlining.

Strategy D-1: Resource Protection

The essential role of stewardship is to care for the resources. For Caltrans, that means taking care of the environment while achieving its fundamental mission to provide for mobility. Various stakeholders have roles and together can be more effective at meeting ultimate stewardship objectives.

Roadside Management

D-1.1 Practice stewardship of corridor intrinsic qualities in day-to-day operations; establish broad understanding within the various units of the Department through a program of regular exchange with regard to type, extent and distribution of resources along the corridor. (Caltrans, Ongoing)

D-1.2 Coordinate the corridor-wide effort to combat the spread of exotic weeds via the Big Sur Weed Management Task Force. (US Forest Service, On-going)

D-1.3 Adopt and implement *Guidelines for Vegetation Management* for practices directly along the highway that incorporate best practices according to variety, distribution, and sensitivity of habitats along the coast and vulnerability to exotic species. (Caltrans, Short-term)

D-1.4 Consider and re-evaluate program for safe and effective application of herbicides along Highway 1 throughout the corridor. (Caltrans, in cooperation with US Forest Service, Ongoing)

D-1.5 Establish priorities and coordinate the approach for controlling and removing invasive and exotic plants throughout the corridor. (Weed Management Task Force, Short-term)

Shoreline Resources

D-1.6 Conduct shoreline habitat sensitivity evaluation toward further development of appropriate highway management activities. (MBNMS in coordination with Caltrans, Immediate)

D-1.7 Evaluate highway management practices for impacts to shoreline resources in the context of natural processes. (Caltrans in coordination with MBNMS, Short-term)

D-1.8 Participate in the development of the statewide Sediment Management Master Plan. (Caltrans, Immediate)

Viewshed Enhancement

D-1.9 Develop a "hit-list" of detractors and visual clutter for remediation over time to enhance the scenic qualities along the corridor and undertaken as part of regular funded programs and projects. (Caltrans, Short-term)

Historic Preservation

D-1.10 Initiate a restoration project for significant contributing features such as the rubble masonry drinking fountains of the Carmel-San Simeon Highway Historic District. (Caltrans, Short-term)

D-1.11 Implement the Guidelines for Corridor Aesthetics for context sensitive solutions honoring the corridor's historic qualities. (Caltrans, Immediate)

Strategy D-2: Environmental Streamlining

Environmental Analysis

D-2.1 Conduct program level environmental analysis for specific corridor management activities, focusing on landslide management and storm damage response. Provide alternatives analysis to facilitate collaborative decision-making. Establish agreement on conceptual mitigation strategies for specific types of impacts. (Caltrans, Short-term)

Programmatic Agreements

D-2.2 Develop corridor-wide programmatic agreement to address activities that could affect the federally endangered Smith's blue butterfly. (Caltrans, Ongoing)

D-2.3 Develop corridor-wide programmatic agreement for the rubble masonry features of the Carmel-San Simeon Highway Historic District. (Caltrans, Ongoing)

D-2.4 Develop a Public Works Plan for compliance with the California Coastal Act for landslide management and storm damage response activities (Caltrans, Immediate)

D-2.5 Develop appropriate agreements with the Monterey Bay National Marine Sanctuary for compliance of highway activities with Marine Sanctuaries Act. (Caltrans, Short-term)

D-2.6 Consider development of a Regional General Permit for activities under the jurisdiction of the US Army Corps of Engineers for compliance with the Clean Water Act.

Environmental Compliance – Event-related

D-2.7 Implement the Interagency Emergency Notification process and the associated follow-up actions; provide consistent and reliable communication and information exchange for environmental compliance. (Caltrans, Ongoing)

Strategic Management Area A: MANAGING FOR LANDSLIDES

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			Performance Measure
					Δ	$	♀	
A-1: Prevention								
Monitoring & Managing Instabilities	A-1.1	Provide information about monitoring activities and progress improvements; seek input about options that promote highway stability and limits footprint.	O	CT	✓		✓	Readily accessible information about managing instabilities
	A-1.2	Scope and develop pre-emptive projects.	O	CT		✓	✓	Protective betterments receive priority consideration
	A-1.3	Establish technical working group and provide an annual review of pre-emptive project development efforts.	S	CT	✓		✓	Interdisciplinary-Interagency group in place with defined role and responsibility
Drainageway Management	A-1.4	Maintain corridor culvert inventory with regular inspections and identify culverts needing work/replacement.	O	CT			✓	Regularly maintained database informs project priorities
	A-1.5	Cooperate with landowners to manage debris and minimize culvert clogging.	S	CT	✓		✓	Informal agreements w/ owners of land prone to debris-flow
	A-1.6	Maintain flow lines in a manner that (a) limits disturbance; (b) avoids secondary adverse consequences; (c) conforms to Storm Water Pollution Prevention Program[21]; and (d) complies with resource/species protection regulations.	O	CT	✓		✓	Lack of regulatory violations
	A-1.7	Prioritize culvert repair needs; develop projects to address deficiencies.	O	CT			✓	Culverts rehabilitated or replaced prior to failure

[21] In accordance with the statewide permit under the National Pollutant Discharge Elimination System issued by the State Water Quality Control Board

KEY

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- WMTF: Weed Management Task Force

Implementation Requirements
- Δ Change in Business Practice
- $ Capital Resources
- ♀ Human Resources
- [a] Above currently funded levels.

Strategic Management Area A: MANAGING FOR LANDSLIDES

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			Performance Measure
					Δ	$	♀	
Drainageway Management (continued)	A-1.8	Consider workforce partnerships for maintaining culvert drainages free of debris.	S	CT	✓	✓		Culvert inlets free of loose debris without increasing effort by Maintenance crews.
	A-1.9	Compile and maintain candidate list of drainages better served by bridge rather than culvert. Coordinate with appropriate stakeholders.	L	CT	✓		✓	Prioritized candidate list available
	A-1.10	When replacement of facilities is warranted, incorporate multiple functions and values in determining size/type of facility.	I	CT	✓			Application of multi-function criteria with new projects.
Pre-Emptive Projects	A-1.11	Perform landslide characterization on priority set of locations, evaluate conditions and provide maintenance or capital investments recommendations.	S	CT	✓		✓	Site-specific management recommendations available.
	A-1.12	Compile and maintain candidate list of protective betterment projects.	O	CT	✓		✓	Readily accessible information.
	A-1.13	Share candidate list and seek early and continuous input from stakeholders.	I	CT	✓		✓	Reduce average project delivery time for protective betterments.
	A-1.14	Explore programming opportunities to seek funding partners and receive priority for protective betterment projects.	S	CT	✓			Increase delivery of protective betterment-type projects without increasing SHOPP expenditures
Site Restoration	A-1.15	Manage sites to control erosion and promote natural plant succession.	O	CT	✓		✓	Reduced total area of barren or weedy areas aggravated by surface erosion

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Strategic Management Area A: MANAGING FOR LANDSLIDES

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			Performance Measure
					Δ	$	♀	
Applied Research and Investment in Technology	A-1.16	Invest in technological research and innovation in search of equipment and techniques to limit disturbances, area and volume.	S	CT		✓		Best available equipment and techniques consistently relied upon for maintenance activities and construction projects
	A-1.17	Initiate pilot projects to test specific techniques for broader application.	O	CT	✓		✓	Availability of new or different management techniques or methods based on accepted science
	A-1.18	Maintain highly skilled geotechnical engineering expertise for advising on repair decisions.	O	CT				Strong peer-to-peer professional relationships
	A-1.19	Continue research and analysis to advance availability of appropriate preventive techniques.	O	CT			✓	Application of newest and proven technology
A-2: Anticipation (Preparation)								
Community Preparedness	A-2.1	Develop and maintain emergency plans for a variety of situations.	O	MC OES			✓	Plan has wide application
	A-2.2	Provide updated information on emergency preparedness to communities.	O	MC OES			✓	Knowledgeable community
Interagency Coordination	A-2.3	Review Big Sur Coordinated Emergency Response Plan annually and update emergency contact information, as needed.	O	MC OES			✓	Smooth implementation under emergency circumstances
Interagency Coordination (continued)	A-2.4	Maintain updated list of emergency contacts and distribute to stakeholders in October of each year.	O	CT			✓	Reliable contact information available

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Strategic Management Area A: MANAGING FOR LANDSLIDES

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a] Δ	$	🧍	
	A-2.5	Conduct annual reviews to ensure highway emergency response team is informed about activities and thresholds that require authorization from regulatory agencies prior to commencing activities; ensure clear distinctions about critical work to stabilize a condition from repair.	O	CT	✓			Reduced delays for beginning operations subject to regulatory agency authorization. Reduced risk associated with performing critical work.
	A-2.6	Prepare advance environmental agreements for recurring activities.	S	CT	✓		✓	Clear impact avoidance and minimization measures
Handling Excess Material	A-2.7	Follow best practices for material handling that includes reduction, recycling and beneficial re-use.	O	CT				Minimal volumes of excess material requiring disposal.
	A-2.8	Identify, evaluate and seek approval for terrestrial sites available to receive excess material.	O	CT	✓	✓	✓	Optional terrestrial sites available for minimum 100,000 cy capacity
	A-2.9	Advance development of best practices through comprehensive environmental analysis.	L	CT	✓	✓	✓	Well-informed decisions are broadly embraced.
Working in Environmentally Sensitive Areas	A-2.10	Employ best practices specific to those areas where sensitive habitats or resources are known to occur.	O	CT			✓	Lack of inadvertent impacts to sensitive resources
Provisions	A-2.11	Conduct annual inventory and procure sufficient supplies of essential provisions for Maintenance stations.	O	CT			✓	No lost time due to unavailable supplies.

Performance Measure

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Implementation Requirements

Δ Change in Business Practice
$ Capital Resources
🧍 Human Resources

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Strategic Management Area A: MANAGING FOR LANDSLIDES

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			Performance Measure
					Δ	$	♀	
A-3: Response								
Interagency Coordination	A-3.1	Implement use of Interagency Emergency Notification Form for emergency highway repairs.	O	CT	✓		✓	Reduced time for agency response for actions requiring authorization.
Communications	A-3.2	Implement responsibilities consistent with Monterey County's Big Sur Coordinated Emergency Response Plan.	O	CT				Smooth coordination during emergency
	A-3.3	Provide messages to travelers, would-be travelers and local and regional community for closure or delay.	O	CT				Lack of complaints regarding road closure information
Construction & Site Restoration	A-3.4	Conduct activities pursuant to best practices.	O	CT				Minimize time to re-opening when traffic disrupted
Post-incident Review	A-3.5	Conduct a debriefing to evaluate all aspects of emergency response.	O	CT				Lessons learned documented and applied to future events
	A-3.6	Conduct a post-incident multi-disciplinary review, including representatives from scientific community.	S	CT	✓		✓	Written evaluations available and recommendations applied to future events

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Implementation Requirements
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Strategic Management Area B: HIGHWAY FEATURES & FUNCTION

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a] Δ	$	♀	Performance Measure
B-1: Clean Roadsides								
	B-1.1	Practice "net loss" of clutter throughout corridor	I	CT	✓		✓	Fewer overall numbers of roadside features
	B-1.2	Adopt and implement *Guidelines for Corridor Aesthetics* for Big Sur Coast.	I	CT	✓		✓	Consistent and predictable approach to roadside management
B-2: Context Sensitive Solutions								
	B-2.1	Seek experimental applications for alternative aesthetic design treatments for construction of new features, or retrofit of existing roadside features.	I	CT	✓	✓	✓	Increased options for aesthetic treatments; fewer overall visually incompatible features
	B-2.2	Establish a reliable approach to improve effective stakeholder participation at various stages of decision-making.	I	CT	✓		✓	Reduce average time for project delivery related to regulatory and community concerns.
B-3: Highway Operations and Capacity								
Operations	B-3.1	Review proposals for new development and anticipated traffic impacts.	O	MC, CT			✓	Consistent methods for evaluation
	B-3.2	Limit number of private roads and recreational access road entrances.	O	MC, CT				No increase in number of highway connections
	B-3.3	Require new facilities and expansion of existing facilities for safe off-highway parking.	O	MC, CT	✓			Reduce number of requests to preclude roadside parking
	B-3.4	Optimize highway operations and safety by evaluating need for additional slow-moving vehicle turnouts.	O	CT			✓	Maintain existing highway capacity

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Implementation Requirements

- Δ Change in Business Practice
- $ Capital Resources
- ♀ Human Resources

[a] Above currently funded levels.

Strategic Management Area B: HIGHWAY FEATURES AND FUNCTION

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			Performance Measure
					Δ	$	♀	
Operations (continued)	B-3.5	Review roadway deficiencies and implement measures to improve operational conditions.	S	CT			✓	Maintain existing capacity
	B-3.6	Evaluate unmet transit needs; determine capacity of augmenting bus service.	S	MST, TAMC			✓	Documentation of transit demands
Capacity	B-3.7	Collect and review traffic level data and travel characteristics every five years.	I	CT			✓	Description available
	B-3.8	Distinguish unpaved shoulders and turnouts; managing roadside uses to avoid unplanned or incremental widening.	O	CT	✓		✓	Consistent and predictable roadside practices

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Implementation Requirements

- Δ Change in Business Practice
- $ Capital Resources
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Strategic Management Area C: TRAVELER EXPERIENCE

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			Performance Measure
					Δ	$	♀	
C-1: Visitor Services								
Information	C-1.1	Develop trip-planning information regarding for distribution in Monterey and San Luis Obispo Counties.	S	MC CVB		✓		Information available
	C-1.2	Evaluate opportunities to enhance availability of visitor information at both ends of corridor.	L	DPR		✓		Availability of a proposal for visitor information
Facilities and Appearance	C-1.3	Evaluate specific needs of travelers, using a variety of means.	S	BCCC		✓		Documentation of survey results
	C-1.4	Form partnerships to evaluate opportunities and develop criteria for selecting appropriate site(s) and solutions for visitor amenities.	S	CT			✓	Successful competition for funds and project initiation
	C-1.5	Develop and implement volunteer litter program with alternative recognition program.	S	CT	✓			Reduce litter and related complaints
	C-1.6	Identify and evaluate opportunities for roadside amenities consistent with Americans with Disabilities Act.	S	CT, DPR, USFS			✓	Reduce number of roadside features that are inaccessible
C-2: Non-Motorized Transportation and Transit								
California Coastal Trail	C-2.1	Plan, develop, and construct the California Coastal Trail (CCT)	O	CCC, CT, DPR	✓	✓	✓	Improved safety for non-motorized travel
	C-2.2	Identify requirements to accommodate CCT within the right of way and incorporate the system into funded capital improvements.	I	CT	✓		✓	Clear policy direction; sections of highway identified where trail will be coincident

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Implementation Requirements

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Strategic Management Area C: TRAVELER EXPERIENCE

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			Performance Measure
					Δ	$	♀	
California Coastal Trail (continued)	C-2.3	Identify and prioritize areas of demand for pedestrian, bicycle and equestrian use; identify capital improvements.	S	CT, DPR, TAMC	✓		✓	Non-motorized demand documented; priorities identified
Bicycling	C-2.4	Incorporate 4-foot paved shoulders as part of funded capital projects.	O	CT				Number of miles of 4-foot paved shoulders
	C-2.5	Provide shared-use highway reminders.	S	CT	✓			Reduce potential vehicle/bicycle conflicts
Transit	C-2.6	Identify opportunities to enhance transit connections along highway corridor.	S	MST			✓	Opportunities and priorities identified
C-3: Recreation								
Highway Connections	C-3.1	Manage safe access to trailheads with existing parking along highway while respecting landowner rights.	O	CT, DPR, USFS		✓	✓	Reduce management conflicts and related complaints
	C-3.2	Conduct feasibility study to evaluate potential for trailhead access pullouts to become permanent dedicated access.	S	CT	✓		✓	Trailheads formalized as part of public access inventory
	C-3.3	Evaluate needs and upgrade facilities for ADA compliance.	S	CT, DPR, USFS		✓	✓	Increase the number of roadside facilities that are accessible
C-4: Interpretation								
Interpretation	C-4.1	Consider development of corridor-wide interpretive program that addresses needs of Caltrans, Los Padres National Forest, the Monterey Bay National Marine Sanctuary, California Coastal National Monument, and State Parks.	S	USFS		✓	✓	Approach to interpretation outlined for securing funds
	C-4.2	Select appropriate media for disseminating information; emphasize finding non-intrusive means.	S	USFS		✓		Interpretation elements do not add clutter or "sanitize" the Big Sur experience.

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Strategic Management Area C: TRAVELER EXPERIENCE

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			
					Δ	$	♀	
	C-4.3	Explore development of Highway Advisory Radio (HAR).	S	CT, DPR			✓	Criteria and requirements available. **Performance Measure**

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Strategic Management Area D: ENVIRONMENTAL STEWARDSHIP

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			Performance Measure
					Δ	$	⚥	
D-1: Resource Protection								
Roadside Management	D-1.1	Practice stewardship of corridor intrinsic qualities in day-to-day operations.	O	CT			✓	Reduce instance of inadvertent impacts
	D-1.2	Coordinate effort to combat exotic weeds via the Big Sur Weed Management Task Force.	O	USFS			✓	Implementation of shared public/private responsibilities for weed control/eradication
	D-1.3	Implement vegetation management guidelines that incorporate best practices according to variety, distribution, and sensitivity of habitats.	S	CT	✓		✓	Increase total area of sustained native habitats
	D-1.4	Consider and re-evaluate program for safe/effective application of herbicides.	O	CT, USFS			✓	Criteria and practices for safe use readily available
	D-1.5	Establish priorities and coordinate approach for controlling/removing invasive and exotic plants.	S	WMTF	✓		✓	Common set of priorities applied to geographic sections of corridor.
Shoreline Resources	D-1.6	Conduct shoreline habitat sensitivity evaluation toward further development of appropriate highway management activities.	I	MBNMS, CT	✓		✓	Sensitivity information incorporated into corridor-wide database
	D-1.7	Evaluate highway management practices for impacts to shoreline resources.	S	MBNMS, CT	✓		✓	
	D-1.8	Participate in development of statewide Sediment Management Master Plan.	I	CT				
Viewshed Enhancement	D-1.9	Develop "hit-list" of detractors and visual clutter for remediation; undertake as part of regular funded programs and projects.	S	CT	✓		✓	List available

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Implementation Requirements
- Δ Change in Business Practice
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Strategic Management Area D: ENVIRONMENTAL STEWARDSHIP

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a] Δ	$	♀	Performance Measure
Historic Preservation	D-1.10	Initiate a restoration project for significant contributing features.	S	CT		✓	✓	Number of historic features restored for lasting integrity
	D-1.11	Implement Guidelines for Corridor Aesthetics for context sensitive solutions.	I	CT	✓		✓	Fewer number of incompatible features
D-2: Environmental Streamlining								
Environmental Analysis	D-2.1	Conduct program level environmental analysis and provide alternatives analysis and establish agreement on conceptual mitigation strategies.	S	CT	✓	✓	✓	Improved delivery of planned protective betterments; reduce uncertainties and overall costs associated with emergency repairs
Programmatic Agreements	D-2.2	Develop corridor-wide programmatic agreement to address activity that could affect Smith's blue butterfly.	O	CT	✓		✓	Reduced potential for inadvertent impacts; improve delivery of planned protective betterments
	D-2.3	Develop corridor-wide programmatic agreement for rubble masonry features of Carmel-San Simeon Highway Historic District.	O	CT	✓		✓	Reduced potential for inadvertent impacts; improve delivery of planned protective betterments
	D-2.4	Develop Public Works Plan for landslide management and storm damage response activities.	I	CT	✓		✓	Improved delivery of planned protective betterments; reduce uncertainties and overall costs associated with emergency repairs
Programmatic Agreements (continued)	D-2.5	Develop agreements for compliance with Marine Sanctuaries Act.	S	CT	✓		✓	Reduced potential for inadvertent impacts; reduce uncertainties and overall costs associated with emergency repairs

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Strategic Management Area D: ENVIRONMENTAL STEWARDSHIP

Strategy	#	Action	Time frame Goal	Lead Agency	Implementation Requirements[a]			
					Δ	$	♀♂	
	D-2.6	Consider development of Regional General Permit for activities under jurisdiction of US Army Corps of Engineers.	S	CT	✓		✓	Determination of streamlining value **Performance Measure**
Environmental Compliance-Event-related	D-2.7	Implement the Interagency Emergency Notification process; provide communication and information exchange for environmental compliance.	O	CT	✓			Reduce delays for beginning work that requires prior authorization

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CHAPTER 6 IMPLEMENTATION

Implementation of the Coast Highway Management Plan will entail efforts along separate but interrelated tracks. The first track moves towards initiating the proposed actions themselves: prioritizing them, matching actions to specific sites, obtaining commitments from responsible parties, and preparing to effect the actions. The second track addresses design of a program for accomplishing the action program over time: forming an organizational structure, assuring adequate funding, and providing for tracking, evaluation, and plan updates.

6.1 Getting Started

More than 80 distinct actions are identified in the Action Plan. For the most part, actions are not geographically specific. In addition, specific measures for accountability by each of the responsible parties have not yet been identified. These two matters are important to stakeholders and work is underway to address them.

Concurrent with the design of a corridor management and coordination program described in 6.2 below, the CHMP Steering Committee and planning team are initiating the process of profiling the corridor to assign and prioritize actions for each of the segments.

Not all the actions have location parameters. Examples of these actions include investing in technological research and innovations and conducting annual reviews of highway emergency response protocols. Some actions are already underway; others will be addressed through the program described below. Preparing corridor segment profiles and identifying needs and priorities within these segments will make aspects of the CHMP more tangible while progress proceeds into future phases of implementation.

The Action Plan identifies responsible parties for each of the actions. In most cases, these assignments are based upon the purviews and jurisdictional responsibilities that exist along the corridor. The responsibility party must identify needs for funding, internal work programs, or partnerships that are necessary to succeed. This framework will become a tool for ensuring accountability in implementing the CHMP.

6.2 Ongoing Corridor Management and Coordination Program

For the majority of recommended actions, Caltrans has been identified as the entity with primary responsibility. However, accepting primary responsibility for accomplishing individual actions is not the same thing as accepting responsibility for implementing the CHMP. The latter function will entail management of the entire process.

Carrying out the recommended actions and making appropriate adjustments will be needed over time. As has been the case in all phases of the CHMP to date, implementing the strategies and actions will entail consultation with stakeholder representatives and coordination among multiple agencies. The actions will also require prioritizing, scheduling, tracking and evaluation. Clearly, an ongoing corridor management and coordination program will be essential for plan implementation. Key elements in the management and coordination program include the organizational structure, acquisition and management of funds, and updating the CHMP.

Implementation Structure
Four entities were involved in preparing the CHMP: the Steering Committee, technical Working Groups, a planning team led by Caltrans, and interested members of the public. Implementation of the CHMP will require entities that are somewhat analogous to those four.

"Byway Organization"
A successor to the broad-based Steering Committee will be required to set priorities among the actions; clarify issues and provide direction; provide a forum for all stakeholders to be heard and to represent and interpret the CHMP to the public. Responsibility for these larger functions as well as responsibility for undertaking and completing specific actions would be assumed by a new organization.

With the recent extension of the All-American Road designation south to San Luis Obispo, coordination of stakeholders across the county line will be even more important.

In deliberations to date concerning its successor, the CHMP Steering Committee has indicated a preference for operating under an Interagency Agreement or a Memorandum of Understanding among key partners. There was general concurrence that a partnership among existing organizations is preferred to creating a new organization, even a non-profit organization at this time. Elements of a proposed charter were drafted (attached); the Steering Committee agreed to receive input on the proposal during circulation of the draft CHMP document(s) for public review and comment. The following membership has been suggested for the proposed "Highway 1 Corridor Council":

Implementation Management Team
A successor to the Planning Team and the CHMP Project Manager will be needed to track actions; monitor and track the implementation process; disseminate information; receive feedback on implementation and emerging issues (satisfaction survey); maintain records and account for certain funds. While Caltrans provided project management during the planning process, another entity with a major stake in the process could lead the Implementation Management Team. Caltrans will have major responsibility for many strategies and actions. Therefore, whether or not Caltrans continues in a leadership role for the overall management, Caltrans continue to have a long-term responsibility for coordinating and tracking its activities and for providing a liaison function to the broader stakeholder group.

Caltrans may serve as interim Implementation Manager following adoption of the CHMP until the role of manager or coordinator is more fully specified by the Coordinating Council.

In addition to a leader, two important roles must be filled: a fiscal agent and staff to coordinate activities of the council, including reporting and following up on actions. The fiscal agent will hold and disburse any funds that are not directed to an implementing agency. This role should be filled by a neutral organization that is eligible to receive funds from private foundations and government sources. The non-profit affiliate of the Association of Monterey Bay Area Governments, Regional Analysis & Planning Services, Inc (RAPS) has volunteered to act as Fiscal Agent for the organization. This arrangement could avail staff for grant writing and administration as well as expertise in the field of transportation.

A number of Programmatic Agreements and/or Memoranda of Understanding may be proposed for execution between agencies. The Implementation Manager would facilitate and track the preparation of such agreements.

Technical Working Group
A group to review and input to ongoing activities and technical information will provide a forum as-needed basis to accomplish actions requiring specific kinds of expertise, or interests.

Public Involvement
As its development, implementation of the CHMP must continue as an open public process.

6.3 Funding

Caltrans has received two Scenic Byways seed grants to initiate the formation and development of a byways organization for the Big Sur Coast. The seed grants must be used for this purpose.

Caltrans will undertake many of the recommended actions as modifications to the way it has undertaken its construction, maintenance, public information and environmental compliance activities in the past. Other agencies such as Monterey County, Transportation Agency for Monterey County, California Department of Parks & Recreation and the USDA Forest Service similarly will be modify existing procedures to implement actions in the CHMP. While these agencies will be expected to apply their own funding to undertake the recommended actions, they may be eligible to receive special funding to support their efforts.

A number of funding sources may be appropriate for activities contemplated with the CHMP (see Table 5-1). The Implementation Manager would maintain a database of grant programs and other funding sources and would collect sources of matching funds often necessary to receive grant funds.

6.4 Next Steps

As the Implementation Phase is undertaken, several initial steps will be taken[22]:

1. A charter for the Highway 1 Corridor Council for the Big Sur Coast, or other successor to the Steering Committee will be written and accepted by member organizations. (See proposed charter, above.)

2. The Corridor Council will identify its preferences for membership, participation and leadership on the Implementation Management Team, including appointment of a Fiscal Agent. (Caltrans may serve as interim Implementation Manager until this step has been completed).

3. The recommended actions will be sorted by corridor section, responsible agency and timeframe and then prioritized for initiation or assigned to a task group for addressing unresolved issues.

[22] Where no primary actor has been identified for completing the step, the Implementation Manager will propose alternatives for consideration/direction/adoption by the Corridor Council.

4. A method for tracking progress and measuring outcomes will be created and effectuated.

5. The modes and frequency of communicating with the public and reporting to other agencies will be considered. A process for modifying/revising actions or procedures and disseminating that information to affected persons will be created.

6. A process for updating the CHMP to reflect modifications to actions or procedures will be designed and implemented.

7. Other matters such as coordinating with member agencies, involvement with planning for Corridor Management Plans for adjacent roadway segments will be addressed.

6.5 Updating the CHMP

As stated among the objectives for the CHMP, "The CHMP provides a process for effective corridor management and resolution of corridor issues." This objective requires the CHMP to be a *living* document that is continually updated to accommodate changed conditions, new resource information and new regulations, technologies and organizational mandates.

The Implementation Manager will be the "keeper of the plan" who tracks minor changes to actions or procedures. These changes will be disseminated to affected persons as they are made. Annually in the Corridor Council's first quarterly meeting of the calendar year, the Implementation Manager will present a "State of the Corridor" report. The "State of the Corridor" will address the following topics:

1. Summary of activities and events in the corridor over the past year: maintenance and construction work on the corridor, significant weather-related events; significant traffic-related events; new multi-modal services in the corridor.

2. Progress in completing recommended CHMP actions over the past year.

3. Progress in completing major studies, negotiations and related MOUs or agreements.

4. Results of a satisfaction survey of Council members and the public.

5. Changes in the institutional context for corridor decision-making (i.e., updates to other agencies' management plans, new legislation or regulations affecting member agencies' operations).

6. Issues/concerns raised by agencies or the public and proposals for addressing them.

7. The year's accumulated modifications to actions and procedures.

8. New funding opportunities or constraints.

9. Text of any proposed annual amendment to the CHMP.

Upon consideration of the information in the State of the Corridor report and discussion by Council Members, the Council will direct the Implementation manager to prepare and disseminate information about the annual amendment.

Potential Funding Opportunities

The following list of potential funding opportunities includes programs that could apply to a variety of needs that may exist along the Coast Highway Corridor. Such projects range from actions in the field such as transportation improvements, habitat restoration, recreational facilities, and erosion control, to land acquisition and enrichment activities such as cultural interpretation and education.

For information, please check with each administering agency or organization to determine the specific eligibility of your project and the application requirements.

POTENTIAL FUNDING SOURCES FOR FUTURE ACTIONS

Program Name	Administering Agency	Funding Source	Eligibility	Fund Uses	Match
Federal Aid in Wildlife Restoration Program	US Fish and Wildlife Service (Dept. of Interior)	Federal	State and local agencies and organizations may be eligible for subgrants	Projects to acquire and improve wildlife habitats to introduce wildlife to suitable habitat; survey wildlife populations; develop and operate facilities for public use of wildlife resources; and support hunter education and safety programs such as target ranges	25 to 90% project costs for wildlife restoration; and at least 25% for hunter education
Federal Lands Highway Program	US Federal Highway Administration, US DOT	Federal under TEA 21 program	Federal and state agencies and tribes	Projects to plan, research, engineer, or construct improvements on federal land highways for tourism and recreational travel, vehicular parking, and interpretive signage; scenic easements and scenic or historic sites (includes acquisition); bicyclist and pedestrian facilities; roadside rest areas	None

POTENTIAL FUNDING SOURCES FOR FUTURE ACTIONS

Program Name	Administering Agency	Funding Source	Eligibility	Fund Uses	Match
FTA 5313(b) Transit Technical Planning Assistance Grants	Caltrans/ Community Planning	Federal	Metropolitan planning organizations, regional transportation planning organizations, tribal governments, non-profit organizations, community based organizations, transit operators, universities, cities and counties	Public and inter-modal transportation planning studies in rural transit areas of California (population 50,000 and less), including Short Range Transit Development Plans, Transit Marketing Plans, and Site Selection Studies	11.47% non-Federal funds
Forest Legacy Program	Forest Service, US Department of Agriculture	Federal	State and local agencies, tribes, non-profit groups and	Projects to acquire property for permanent forest protection easements	25%
Habitat Conservation Fund Grant Program	California Department of Parks & Recreation	State	Cities, counties and districts.	Projects to conserve habitats that are wetlands, riparian, or near recreational trails.	50% non-State share
Habitat Enhancement and Restoration Program	California Department of Fish and Game/Wildlife Conservation Board	State	Non-profit conservation organizations and federal, state and local government agencies.	Projects to restore and enhance habitats such as wetland, riparian, and forest land and habitats for threatened or endangered species	No required match; however, higher priority given with matching funds or services
Highway Bridge Replacement and Rehabilitation Program	Federal Highway Administration (FHWA)	Federal	State and local agencies, tribes	Projects to repair or replace highway bridges	20% non-federal share
Highway Safety and Operations Research Program	National Highway Traffic Safety Commission	Federal	Any qualified organization; however, eligibility may be more restricted for a specific competition	Projects to research, develop, and enforce activities in all phases of traffic safety	Sometimes

POTENTIAL FUNDING SOURCES FOR FUTURE ACTIONS

Program Name	Administering Agency	Funding Source	Eligibility	Fund Uses	Match
Improvements to State Park Units Grants Program	California Department of Parks and Recreation/Office of Grants and Local Services	State	Local government agencies	Projects to develop, improve, rehabilitate, enhance, protect and improve access to units of the California State Park System.	None
Land Acquisition Program	California Department of Fish and Game/ Wildlife Conservation Board	State	Government entities and non-profit organizations.	Acquisition of real property or rights of real property in conjunction with the Department of Fish and Game for the purpose of wildlife conservation	None
National Highway System Program	Caltrans	Federal under TEA 21 program	State and local governments	Projects to construct, rehabilitate, resurface, restore, and provide operational improvements and highway safety improvements	10% minimum
National Recreational Trails Grant Programs	Federal Highway Administration (FHWA), under USDOT	Federal	State and local agencies, tribes, public agencies, non-profit organizations, or for-profit organizations and individuals	Projects to maintain existing trails; develop trailside and trailhead facilities; develop handicapped accessible trails; acquire trail easements; purchase property; construct new trails on state, county, municipal or private land	50% of project costs

POTENTIAL FUNDING SOURCES FOR FUTURE ACTIONS

Program Name	*Administering Agency*	*Funding Source*	*Eligibility*	*Fund Uses*	*Match*
Natural Heritage Preservation Tax Credit Program	California Department of Fish and Game/Wildlife Conservation Board	State	Donors of qualified land	Provision of tax-credits to private landowners who agree to donate land or water rights to state and local agencies or designated non-profit organizations for conservation purposes	None
North American Wetlands Conservation Grants	US Fish and Wildlife Service (Dept. of Interior)	Federal	State and local agencies, tribes, other public agencies, institutions of higher education, non-profit and for-profit organizations and individuals	Projects to acquire, protect, enhance, restore and manage wetland ecosystems and fish and wildlife that depend on such habitats	50% for both non-federal and federal projects
Office of Traffic Safety Incentive Grants	Caltrans	State	State and local government agencies.	Projects to enhance and promote pedestrian mobility and safety	20% minimum
Public Access Program	California Department of Fish and Game / Wildlife Conservation Board		Cities, counties, and public districts or corporations	Development of facilities such as fishing piers or floats, access roads, boat launching ramps, trails, boardwalks and interpretive facilities	None
Resource Conservation District Watershed Coordinator Grant Program	California Department of Conservation/ Office of Land Resource Protection	State	Resource Conservation Districts.	Small projects related to capacity building and watershed protection	25% non-State funds
Recreational Trails Program (Symms)	California Department of Parks and Recreation/ Grants and Local Services	Federal	Cities, counties, districts, state agencies and NPOs with mgmt responsibilities over public lands	Projects to construct, maintain and restore rec trails acquire property right for trails, develop trail-side and trail-head facilities	Minimum 50% non-federal

POTENTIAL FUNDING SOURCES FOR FUTURE ACTIONS

Program Name	Administering Agency	Funding Source	Eligibility	Fund Uses	Match
Roadway Safety and Traffic Records Program	Caltrans/Office of Traffic Safety	State	State, county and city government agencies	Projects to effect improvements in the roadway environment by enabling traffic engineers and others with traffic engineering responsibilities to identify and recommend solutions to traffic hazards attributable to the roadway	None
Federal Scenic Byways Program	Federal Highway Administration (FHWA)	Federal under TEA 21 program	State governments, local entities can participate in the state application projects need tot be located on an official "Scenic and Recreational Highway" as designated by the state legislature	Projects to plan, design and develop state byways programs; make safety improvements; construct rest areas, turn-outs, highway shoulder improvement; interpretive facilities; bicycle and pedestrian facilities; improve access for recreational purposes, protect historical archeological, and cultural resources adjacent to highways; develop and provide tourism information to the public	20% of project costs, in cash
Sport Fish Restoration Grants Payments to States Program	US Fish and Wildlife Service (Dept. of Interior)	Federal	States primarily; however, states may subgrant	Projects to restore, manage or improve sport fish populations including acquisition and development of facilities for public use of sport fish resources	States provide 25 to 90% of project costs

POTENTIAL FUNDING SOURCES FOR FUTURE ACTIONS

Program Name	Administering Agency	Funding Source	Eligibility	Fund Uses	Match
Stewardship Incentive Program	Forest Service, US Department of Agriculture	Federal	Tribes, for-profit organizations, and individuals	Projects to accomplish reforestation and afforestation; establish windbreaks and hedgerows; protect and improve soil and water quality; protect and improve riparian and wetland environments; enhance fisheries and wildlife habitats. and enhance forest recreation	Established on a state-by-state basis, for up to 75% of the landowner costs
Traditional Folk Art Program	California Arts Council/ Fund for Folk Culture	State	Any individual or group in California.	Folk art projects such as community based presentations of music, poetry, dance and story telling, pageantry, crafts, preservation or documentation of vernacular architecture	None
Transportation Enhancement Program	Caltrans	Federal under TEA 21 program	State and local transportation agencies	Projects to improve/ enhance roadways and non-motorized facilities; design/construct pedestrian/bicycle facilities; establish transit projects; acquire scenic easements, historic highway programs; provide landscaping/ aesthetic enhancements; rehabilitate/operate historic transportation buildings; preserve abandoned railway corridors; control outdoor advertising; mitigate water pollution due to highway run-off	Generally 20%, sometimes less

POTENTIAL FUNDING SOURCES FOR FUTURE ACTIONS

Program Name	*Administering Agency*	*Funding Source*	*Eligibility*	*Fund Uses*	*Match*
Transportation Improvement Account (TIA) and Urban Arterial Trust fund Account (UATA)	Caltrans	State	Cities with 5,000 population or more, transportation benefit districts, and urban counties	Projects to address deficiencies, congestion, safety	Varies depending upon population size
Water Quality Planning Grants Program - 205j	California Department of Water Resources/ Water Quality Control Board	Federal	Local public agencies including special districts.	Planning projects to reduce, eliminate, or prevent water pollution and to enhance water quality	25% non-federal
Whale Tail License Plate Grant Program	California Coastal Commission	State	Non-profit organizations and government entities	Projects to teach California's children and the general public to value and take responsibility for the health of the state's marine and coastal environments, including Adopt-a Beach programs, and other beach operation and maintenance-type projects that have an educational component	None

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University of California Santa Cruz, Big Creek Reserve. www.redshift.com/~bigcreek/

Attachment 1: Corridor Map

Point Lobos
Point Lobos State Reserve
Carmel-by-the-Sea
Carmel River
70
Carmel Highlands
Garrapata State Park
Soberanes Point
Garrapata Coast
Garrapata Ck
Rocky Ck
Palo Colorado Road
60
Bixby Ck
Hurricane Point
Bixby Coast
Old Coast Road
Little Sur River
Point Sur State Historic Park
El Sur Ranch
Andrew Molera State Park
50
Big Sur
Pfeiffer-Big Sur State Park
Big Sur River
Cooper Point
Pfeiffer Beach
Big Sur Valley
Los Padres National Forest
Torre Cyn Ck
40
Julia Pfeiffer Burns State Park
Partington Coast
Anderson Cyn Ck
Esalen Coast
30
Big Ck
Santa Lucia Range
Big Creek Coast
Limekiln State Park
Lucia
Lopez Point
20
Nacimiento Fergusson Road
Lucia Coast
Pacific Valley
Willow Ck
10
Gorda
Gorda Coast
Salmon Ck
Monterey County
San Carpoforo Ck
0
Ragged Point
San Luis Obispo County
Monterey Bay National Marine Sanctuary
Corridor Section
Postmiles
Communities
Historic Fountains
Historic Bridges
Ownership
Public
Private
N
Miles
0 4 8 12 16 20
07/03

Corridor Map
Corridor Management Plan

Attachment 1

Caltrans

APPENDIX A Stakeholder List for the Big Sur CHMP

Stakeholders are defined as those with a vested interest in management issues related to the Highway 1 corridor and are generally categorized into several groups. New stakeholders continue to be identified as the planning process continues.

ELECTED OFFICIALS

Congressperson Sam Farr
Congressperson Lois Capps
State Senator Bruce McPherson
State Assemblyman John Laird
Monterey County 5th District Supervisor Dave Potter
SLO County 2nd District Supervisor Shirley Bianchi

PUBLIC AGENCIES

Federal

Federal Highway Administration
Monterey Bay National Marine Sanctuary
National Marine Fisheries Service
US Army Corps of Engineers
US Department of Agriculture
- Natural Resource Conservation Service
- Forest Service

US Environmental Protection Agency
US Fish and Wildlife Service
US Geological Survey

State

Department of Transportation (Caltrans)
Department of Fish and Game
Department of Forestry
California Highway Patrol
Coastal Commission
Department of Parks and Recreation
Trade and Commerce
Regional Water Quality Control Board
State Lands Commission

PUBLIC AGENCIES (cont'd)

Regional/Local

Association of Monterey Bay Area Governments
Cambria Community Services District
Carmel Unified School District
County of Monterey
County of San Luis Obispo
Monterey County Office of Emergency Services
Monterey County Planning and Building Inspection Department
Monterey County Sheriff's Department
Monterey Regional Parks District
Monterey -- Salinas Transit
Pacific Valley Unified School District
San Luis Obispo Council of Governments
San Luis Obispo County Planning Department
San Simeon Community Services District
Transportation Agency for Monterey County

NON-GOVERNMENTAL ORGANIZATIONS

Big Creek Reserve
Big Sur Historical Society
Big Sur Land Trust
Big Sur Land Use Advisory Committee
Big Sur Multi-Agency Advisory Council
Big Sur Fire Brigade
California Native Plant Society
Cambria Chamber of Commerce

Carmel Highlands Community
Coast Property Owners Association
Coast Watch
League of Women Voters
Monterey County Travel & Tourism
Moss Landing Marine Laboratories
North Coast Alliance (San Luis Obispo County)
North Coast Advisory Council (San Luis Obispo County)
Palo Colorado Community
San Luis Obispo Land Conservancy
San Simeon Chamber of Commerce
Save our Shores
South Coast Advisory Committee
Ventana Wilderness Sanctuary
Sierra Club Santa Lucia Chapter
San Luis Obispo Land Conservancy

LARGE PRIVATE LANDOWNERS

El Sur Ranch
Hearst Corporation

APPENDIX B Federal Highway Administration Requirements for Corridor Management Plans

The essential components of a CMP that must be included for a route to be considered for national designation include:

1. *A map identifying the corridor boundaries, location of intrinsic qualities, and land uses in the corridor.*

2. *An assessment of the intrinsic qualities and their "context" (the areas surrounding them.)*

3. *A strategy for maintaining and enhancing each of these intrinsic qualities.*

4. *The agencies, groups, and individuals who are part of the team that will carry out the plan, including a list of their specific, individual responsibilities. Also, a schedule of when and how you'll review the degree to which those responsibilities are being met.*

5. *A strategy for of how existing development might be enhanced and new development accommodated to preserve the intrinsic qualities of your byway.*

6. *A plan for on-going public participation.*

7. *A general review of the road's safety record to locate hazards and poor design, and identify possible corrections.*

8. *A plan to accommodate commercial traffic, while ensuring the safety of sightseers in smaller vehicles, as well as bicyclists, joggers, and pedestrians.*

9. *A listing and discussion of efforts to minimize anomalous intrusions on the visitors' experience of the byway.*

10. *Documentation of compliance with all existing local, state, and federal laws about the control of advertising.*

11. *A plan to make sure that the number and placement of highway signs will not get in the way of the scenery, but still be sufficient to help tourists find their way. This includes, where appropriate, signs for international tourists who may not speak English fluently.*

12. *Plans of how the byway will be marketed and publicized.*

13. *Any proposals for modifying the roadway, including an evaluation about design standards and how proposed changes may affect the byway's intrinsic qualities.*

14. *A description of what you plan to do to explain and interpret your byway's significant resources to visitors*

APPENDIX C Highway 1 Traffic Volumes in San Luis Obispo and Monterey Counties

San Luis Obispo County Segments			ADT Existing	ADT Projected	Peak Volumes		Peak % of ADT	% in peak direction	% Trucks in peak
#	Co.	Postmile	2001	2025	2001	2025			
5A	SLO	0.00/9.00	5100	8300	400	1000	12.0%	67% NB	5.0%
5B	SLO	9.00/10.38	8100	11800	1000	1500	12.3%	57% NB	11.0%
6	SLO	10.38/16.80	13000	27400	1650	3100	11.3%	60% NB	2.0%
7	SLO	16.80/17.80	26000	59700	2400	5500	9.2%	59% SB	2.0%
8	SLO	17.80/27.88	24500	33500	2150	3100	9.4%	64% NB	3.0%
9	SLO	27.88/32.10	16700	18600	1600	2200	11.7%	63% NB	3.0%
10A	SLO	32.10/36.80	9100	12400	1350	1800	14.6%	67% SB	5.0%
10B	SLO	36.80/56.39	8100	11100	1250	1800	15.9%	67% NB	1.0%
10C	SLO	56.39/71.34	2600	3300	380	600	18.8%	54% SB	1.0%
11*	**SLO**	**71.34/74.32**	**2600**	**3300**	**380**	**470**	**17.8%**	**65%SB**	**1.0%**

Monterey County Segments			ADT Existing	ADT Projected	Peak Volumes		Peak % of ADT	% in peak direction	% Trucks in peak
#	Co.	Postmile	2001	2025	2001	2025			
12A*	**MON**	**0.00/43.10**	**2800**	**3600**	**500**	**600**	**17.8%**	**60%**	**1%**
12B*	**MON**	**43.10/51.20**	**4200**	**5600**	**740**	**960**	**17.8%**	**60%**	**1%**
12C*	**MON**	**51.20/67.90**	**4800**	**6400**	**620**	**800**	**16.6%**	**60%**	**1%**
13	MON	67.90/72.30	8200	10900	940	1190	16.4%	60%	1%
14A	MON	72.30/75.14	61000	77500	5300	7800	10.0%	55%	2%
14B	MON	75.14/R78.12	81000	102800	7600	10300	10.0%	55%	2%
14C	MON	R78.12/R90.98	88000	261900	8900	26700	10.2%	65%	3%
15	MON	R90.98/R102.03	34500	43800	4000	5000	11.4%	65%	6%

ADT: Average Daily Traffic

*** bold:** Denotes segments that correspond to the planning are for the Big Sur CHMP

APPENDIX D Emergency Communications

Strategies A-3.1-2

Communications

Objectives for effective communication during an emergency are:

Reliable—Establish a best source for consistent and reliable information that enables people to make informed decisions about their travel.

Accurate—Update relevant information as conditions warrant. The degree of disruption (ranging from "inconvenience" to "extreme" per CERP) and the dynamic nature of the work generally dictate the frequency, which may be needed on a daily basis under the most severe conditions.

Consistent—The message sent and delivered by multiple sources, from official statements (press releases) to roadside flag-persons, is as consistent as possible. Given there is little control over "unofficial" sources of information, it is recognized that emphasis on the first two points to produce a reliable source of accurate information, can help control potential rumors.

Incident Command: Monterey County's Big Sur Coordinated Emergency Response Plan[23] is the guiding document for establishing the incident command system. Caltrans also uses the Big Sur Coast Emergency Operations and Notification Plan as a means of initiating and maintaining communications and operations during full closures of Highway 1 along the Big Sur Coast.

Public Information: Caltrans provides information about highway conditions or incidents are disseminated to Big Sur travelers and the local community. See attachment X for description of the information and distribution of the messages.

Agency Roles: Confirm agency roles and responsibilities for emergency communications:

Responsible Party	*Area of Responsibility*
Monterey Co. OES	Establish Incident Command and provide tactical incident and dispatch communications
Sheriff, CHP, Volunteer Fire Dept.	Emergency Services per Incident Command
Traffic Management Center (TMC)	Caltrans Operations
Caltrans Environmental Planning	Caltrans Interagency Coordination and Environmental Compliance
Caltrans Public Information	Traveler and Community Liaison
California Dept of Parks & Recreation	State Parks
Big Sur Chamber of Commerce	Liaison to Community and Businesses

[23] *Big Sur Coordinated Emergency Response Plan.* 1999

Caltrans

- Traffic Management Center (Operations)
- Environmental Planning (Interagency Coordination)
- Public Affairs Office (Traveler and Community Liaison) – writes and disseminates news releases; answers questions from the public, other agencies, and the media
- Caltrans Environmental Coordinator (monitor)—ensures storm damage construction is conducted in compliance with environmental regulations; primary liaison between Caltrans and regulatory agencies regarding changes in project scope, conditions, impacts or mitigation.*

Monterey County Office of Emergency Services

- Establishes Incident Command
- Provide tactical incident and dispatch communications

CHP and Monterey County Sheriff

- Emergency response providers

CA Department of Parks & Recreation

- State park visitor safety and security of state parklands

Big Sur Chamber of Commerce

- Liaison to community and businesses

APPENDIX E Proposed Byway Organization

DRAFT PROPOSAL (#2)
Charter for a Byway Organization
October 18, 2001

Proposed Name: Highway 1 Corridor Council for the Big Sur Coast

1. Mission Statement

The "Highway 1 Corridor Council" (Council) is dedicated to the long-term preservation and protection of the natural, scenic, historic, cultural and recreational qualities of the Highway 1 corridor along the Big Sur coast. The Council achieves this by coordinating the management activities of various public entities with effective participation by members of the community, non-governmental organizations and the public. Specifically, the Council is charged with the oversight for implementation of the Big Sur Coast Highway Management Plan (CHMP).

2. Vision Statement

Revised draft of the corridor vision statement:

"Highway 1 along the Big Sur Coast is widely recognized for its rugged and spectacular beauty. Travelling the highway is safe and enjoyable, while managing the corridor ensures preservation of intrinsic natural, scenic, cultural, historic and recreational qualities. This route shall continue to provide access and serve as the key transportation corridor between the northern and southern portions of the Big Sur coast.

Management activities along the Highway 1 corridor shall contribute to maintaining, and where feasible, restoring the native character of the area. Any action along the corridor, for short-term or long-term benefit, must be carefully measured to ensure that the corridor's beauty and wildness are maintained for all time."

1. Authority

The Council operates by Interagency Agreement or MOU among key partners together with a designated (existing) non-profit organization to act as fiscal agent.

2. ***Purpose***

The primary purpose of the Council is to implement the Big Sur Coast Highway Management Plan.

In support of this task, functions include:

- Setting priorities for implementation strategies requiring further development, resources or funding
- Provide a forum for addressing and resolving corridor-related management issues
- Direct the process to keep the plan current through periodic performance reviews and by amending the plan accordingly.

Guidance from the Council is expected to reflect, through appropriate representation, the needs and desires of the community as well as the requirements and regulations of public agencies along the corridor. The Council will work collaboratively to ensure that the goals and objectives of the Big Sur Coast Highway Management Plan are being met. Participation on the Council assumes a commitment on the part of its members to proactively bring forward issues relevant to their respective organizations and to ensure fair consideration of other stakeholder interests.

3. Work plan (including products)

(e.g. May include further development of specific action elements.)

4. Membership

Proposed membership for the Council includes:

Federal

- U.S.D.A. Forest Service
- Monterey Bay National Marine Sanctuary
- U.S. Congress, 17th District Representative (Sam Farr)

State

- California Department of Transportation
- California Coastal Commission
- California Department of Parks & Recreation

Regional

- Association of Monterey Bay Area Governments
- Monterey County Planning & Building Department
- Big Sur Land Use Advisory Committee
- South Coast Advisory Committee

Non-governmental Organizations

- Monterey County Convention and Visitor's Bureau
- Coast Property Owner's Association
- Coast Watch

5. Council Administration

The Council will operate as its own collective entity and is not proposed to have a separate administrative body or Board of Directors.

Fiscal Agent: Fiscal agent proposed to be a non-profit organization for matters that are not funded directly to members or others with direct responsibility for implementation. The priority will be for direct funding to implementing bodies. Where a direct relationship does not apply, an existing non-profit organization will act as fiscal agent. (Recommendation that the non-profit Regional Analysis & Planning Services, Inc. fill this role, see attached.)

6. Key Contact

(Identify responsible parties)

- A lead agency contact shall be designated (Recommendation: Caltrans act as interim lead agency)
- A full-time coordinator shall be assigned by the Council

7. Communication Strategy

(Outline procedures for regular communications, such as providing information via website and providing regular reports to the Big Sur Multi-Agency Advisory Committee.)

8. Public Involvement Strategy

- Agendas for regular Council meetings will be published
- Special meetings held by the Council or any member organization to focus discussion and input on particular issues would be publicly noticed and advertised to create awareness; coordinate or combine with other forums, as appropriate.
- Location of meetings will vary along the coast to maximize opportunities for participation, including the neighboring areas to the south (San Luis Obispo County).

9. **Interagency Coordination**

An Interagency Agreement of Memorandum of Understanding (MOU) will be the primary mechanism for coordination among the various governmental agencies with jurisdiction over activities throughout the corridor. The list of signatories for the Interagency Agreement or MOU would be more comprehensive than that of agency representatives on the Council.

10. Meeting process

Quorum: A minimum of 7 members is necessary for making recommendations toward consensus-based decision-making.

Decision-making (or Consensus-building): Decisions are to be made by consensus, whereby all members are willing to move forward even if a particular approach or alternative is not their individual first choice. When appropriate, ad-hoc subcommittees can be formed to evaluate specific subjects or issues and

make recommendations to the Council. Direction relative to substantive issues will be considered and decided upon by the Council. If consensus cannot be reached, a dispute resolution process (to be defined) will be implemented and may include calling in neutral mediation services. (**Please note**: Consensus decisions by the Council are not to be interpreted as overriding the authority or responsibility of any member agency or organization. Statutory and jurisdictional responsibilities of individual organizations are to be respected and remain intact; "consensus decision-making" by the Council is only intended as a means to ensure collaboration within statutory responsibilities.)

Frequency: Meetings are proposed to be held quarterly.

Ground rules: For effective meetings, the following must be observed:

- Respect other views
- Respect each other's roles and responsibilities
- One person speaks at a time, no side conversations
- Start on time, end on time
- Neutral facilitation / note-keeping

11. Bylaws

(Clearly defined roles and responsibilities for the organization and its members, to be defined by the Council. This would include the role of the lead agency, coordinator, fiscal agent and all participating members.)

12. Record-keeping

Meeting Summaries: Written summaries from Council meetings will be produced and distributed after each meeting and be made available to the public. Summaries will include any action items discussed.

Action Items: A record of ongoing action items will be kept, including the task, assignment of responsibility, and due date.

Mailing & Contact Lists: Contact lists will be updated quarterly and shared among the organizations for corridor management and related activities only. Contact lists are not to be distributed for any private or commercial use.

Implementation Plans: Status of Implementation Plans, Action Elements shall be kept by the Council.

Monitoring: A periodic (annual or bi-annual) review of the CHMP will be made to: measure and track success, evaluate needs for change and make recommendations for amendments or updates to the plan.

13. System for securing and raising funds

A partnership between the Council and an existing non-profit organization is proposed to act as fiscal agent for the Council (for those matters not already funded directly by implementing organizations).

The fiscal agent will have the primary responsibility for identifying and securing funds for projects, programs and activities as identified and prioritized by the Council. Opportunities for funds will be sought through regular programming opportunities as well as through sources of grant funds and other partnerships. The fiscal agent shall also have the primary responsibility to raise and manage required matching funds.

14. Method for neutral fiscal review on a regular basis

In consultation with the fiscal agent, the Council's budget will be reviewed annually.

15. **Liability coverage**

Liability of decisions remain with the respective public agency organizations. (Alternatively, a more formal organization would require liability coverage for actions taken by the Council and programs or projects which receive public funds.)

APPENDIX F Byway Organization Background

To date, four forums have been held to discuss a potential future organization as a continuation of the existing Steering Committee for the Big Sur Coast Highway Management Plan (CHMP). The role of the Steering Committee is specific to guiding the development of the plan. A next logical step is to have an organizational structure in place to ensure implementation of the CHMP.

Discussions on this subject were held as follows with highlights enumerated below (see complete meeting summaries more detail):

- May 11, 2001 Steering Committee teleconference call
- July 27, 2001 Plan Implementation Working Group meeting
- August 22, 2001 Steering Committee meeting
- October 17, 2001 Plan Implementation Working Group meeting

5/11 Steering Committee Teleconference

1. The Scenic Byways Resource Center (SBRC), based on a nationwide survey of byways organization provided a brief overview of the various types of organizations, highlighting the limitations and benefits of each (see attached).
2. Some concern was expressed about creating another entity – government or otherwise. SBRC representatives noted that an effective organization shouldn't create more hoops to jumps through. Their effort should be to coordinate and see that activities are implemented.
3. The benefit of an organization's ability to raise and manage funds was noted also.
4. The importance of naming a lead for the organization (whether it was a public agency or an existing non-profit) was raised especially in their capacity to be a fiscal agent for the group.
5. Another important element of creating an effective organization mentioned was the development of a mechanism for handling disputes.
6. Seedgrant monies are available through the National Scenic Byways Program to help launch a byways organization (application submitted for 2002 cycle).
7. The SBRC is available and willing to host a workshop on developing an effective organization.

7/27 Plan Implementation Working Group Meeting

1. After considerable discussion, the group recommended formation of a hybrid organizational structure, consisting of a non-profit byway organization with MOU's among the various agencies and the organization.
2. It was recommended that the Carmel River Watershed Council be used as a model.
3. Key points from the discussion include:
   - Organization should have autonomy
   - Not a desire for more government in Big Sur
   - Need to designate a lead entity
   - Lead entity must care about the entire corridor
   - Common thread is the roadway for the CHMP (like the River is for the CRWC)
   - MOUs can provide a mechanism for the use of agency staff and support to the organization

- Number of participants should be up to the group
- Recognize that the focus of byway organization is not managing land use, but implementing the plan.
- CHMP demands a real collaborative effort given the various jurisdictions and entities involved.
- Formation of nonprofit may require hiring a coordinator/spokesperson.
- Need commitment from agencies regarding their participation.
- Need to determine process to handle CHMP amendments and institutionalize role of organization.

8/22 Steering Committee Meeting

- Important to not only get people involved but maintain participation in organization's activities.
- Developing an independent non-profit requires a lot of work.
- Need an agreed upon decision making process that includes unanimous agreement to the extent that is possible.
- JPAs may make public feel excluded (since they are limited to public agencies)
- Heavy involvement of agencies in the CHMP may make community feel they have less of a role.
- Involve Watershed Councils in the CHMP.
- Paid coordinator is critical to the process.
- Must have fiscal agent to receive funds.
- Organization needs to consider property owner, resident, business and visitor opinions as well as those of the agencies.
- The advantage of using an outside fiscal agent instead of starting a non-profit is a citizen's group can be formed much more quickly. Informal structure allows you to focus on goals, can build momentum and attract attention – jumping off point for a more formal organization.
- Consider an existing non-profit organization to act as a fiscal agent (e.g. AMBAG is a gov't agency, but also has a non-profit 501c(3) affiliate.

10/17 Plan Implementation Working Group Meeting

- Reviewed initial draft proposal for Byway Organizational structure (comments incorporated into revised Draft Proposal #2 "Charter for a Byway Organization", dated 10/18/01)
- Membership of the Council—discussed whether there should be parity among elected officials on the Council. (This will be taken up by the Steering Committee.)
- Relationship to the Big Sur Multi-Agency Advisory Council—desire for the proposed Hwy 1 Council to have some independence from the MAAC, rather than a standing committee "subset". Many members would be the same, but MAAC could reconvene (plus or minus some members) as another group (i.e. the Highway 1 Council).
- Desire to legitimize the Highway 1 Council (institutionalize it so it has more recognition than a "club") potentially special legislation could be proposed to support it.
- The make-up/structure/function of a byway organization should be proposed, reviewed and evaluated as part of the public review of the CHMP.

- Evaluated opportunity to work with an existing non-profit organization (Regional Analysis & Planning Services, Inc)

Benefits and Limitations

Benefits:
- Limits creation of new entities by utilizing existing organizational structures—metamorphosis of the CHMP Steering Committee to a standing committee of the Big Sur MAAC and fiscal agent with an existing non-profit.
- This "hybrid" structure allows for flexibility in the way the organization may develop in the future according to changing needs (e.g. can evolve into more formal structure, including a separate non-profit, if so desired.)
- Less complex structure allows smooth transition from current format
- Broad representation from the various stakeholders continues
- Structure reflects the context of the community in which it is operating
- Has ability to get things done quickly

Limitations:
- Coordination of individual members with one another is not guaranteed
- Challenges to reaching consensus on some issues may be significant
- Doesn't have independent legal standing and liability would revert back to individual agencies and other participants
- Need to secure agreement with willing fiscal agent
- Uncertain lead agency designation
- Obtaining a paid coordinator role is uncertain